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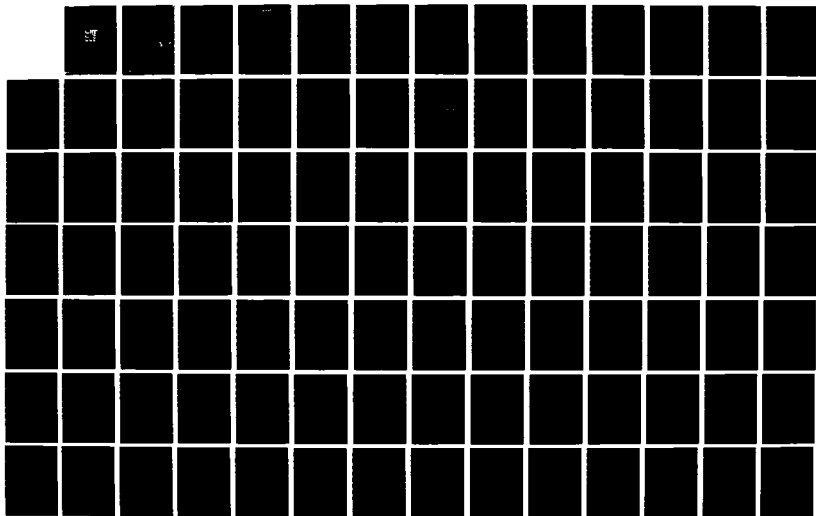
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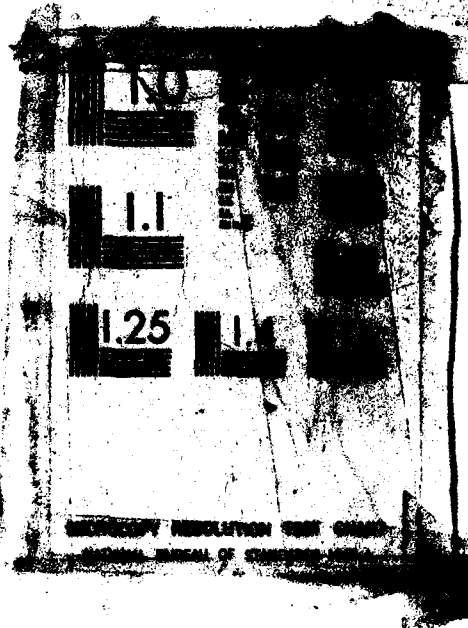
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DETERMINATION OF THE CHRONIC MAMMALIAN TOXICOLOGICAL EFFECTS OF TNT

Twenty-Six Week Subchronic Oral Toxicity Study of Trinitrotoluene
(TNT) in the Beagle Dog

Phase II Final Report

Prepared by:

Barry S. Levine
John H. Rust
John M. Burns
Paul M. Lish

June 1983

Supported by:

U.S. Army Medical Research and Development Command
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Chicago, IL 60616

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Fort Detrick, Frederick, MD 21701-5010

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included hemolytic anemia, hepatomegaly and splenomegaly with accompanying histologic lesions, and death. Only the highest dose given (32 mg/kg/day) proved to be lethal. Hepatic cloudy swelling and hepatocytomegalia were apparent at all doses tested, thus a no observable effect level was not established in the present study.

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TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY OF
TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

Final Report

Prepared by

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EXECUTIVE SUMMARY

This study was conducted to evaluate the toxicity of the munitions compound 2,4,6-trinitrotoluene (TNT; CAS Reg. No. 118-96-7) in beagle dogs when administered daily for 26 weeks by capsule. Groups of six dogs per sex received TNT at doses of 0 (vehicle controls), 0.5, 2, 8, or 32 mg/kg/day. Toxicologic endpoints included clinical signs, body weights, food consumption, clinical chemistry, hematology, urinalyses, electrocardiography (ECG), ophthalmic examinations, organ weights, and gross and tissue morphology.

TNT was found to be lethal at the highest dose tested (32 mg/kg/day), as one female was sacrificed in a moribund state during Test Week 14 while another female died in Test Week 16. Prior to these conditions, these animals became dehydrated, emaciated, jaundiced, hypothermic, and uncoordinated. Additional clinical signs of toxicity observed at this lethal dose level included orange-brown urine and feces, and darkening of the tongue and/or gums. In addition, high dose dogs showed reduced food intake with associated loss of body weight. Slight reductions in body weight gains were apparent at lower dose levels.

The presence of jaundice at the 32 mg/kg/day dose level was supported by elevated bilirubin levels in serum and urine, and increased urobilinogen values. This was consistent with the observed anemic state (reduction in hematocrit, hemoglobin, and RBCs) for animals receiving either 8 or 32 mg/kg/day. Physiologic compensatory responses to anemia at these doses included increased numbers of reticulocytes and larger erythrocytes, and elevated numbers of nucleated RBCs. Methemoglobin was found in circulating blood at the 8 and 32 mg/kg/day dose levels. A hemosiderin-like pigment in macrophages of the spleen and liver, and sinusoidal congestion of the splenic red pulp with accompanying increased spleen size were seen primarily at the higher doses. These observations suggested that TNT-induced anemia was hemolytic in origin. Methemoglobin production indicative of the oxidizing nature of TNT and/or its metabolites supports this concept. Reduced numbers of erythrocytes and their precursors in bone marrow was seen, however this may have been due to a direct hemolytic effect on RBC precursors.

Liver injury following the administration of TNT was primarily observed from histologic examination. Enlarged liver cells and hepatocytic cloudy swelling were seen at all dose levels tested with the incidence and/or severity of

these lesions generally increasing as a function of dose. Female dogs were found to be more sensitive than males in the increase of liver weights. Enlargement of the liver and microscopic evidence of cirrhosis were also seen, but were restricted to the 8 and/or 32 mg/kg/day dose levels. Additional findings suggestive of hepatotoxicity were clinical chemistry data showing an increase in LDH (lactic dehydrogenase) in the male and in the female dogs (at the highest dose) and a dose-dependent decrease of SGPT (serum glutamyl transaminase) in both sexes. This latter effect was seen at all doses except 0.5 mg/kg/day, the lowest dose level tested. Serum cholesterol levels were also increased in both sexes.

Increased numbers of circulating platelets and neutrophils, were seen at 32 and to a lesser extent 8 mg/kg/day. As mentioned above, reduced numbers of erythrocytes and precursors was apparent at these dose levels. Thus, the observation of a dose-dependent decrease in bone marrow Myeloid:Erythroid ratios is surprising.

Female dogs were found to be more sensitive than males also in the increase of renal weights. The results of urinalysis showed an increase in levels of urinary protein and bilirubin in TNT fed dogs, however histologic changes in the kidneys were not in evidence. Additional observations noted primarily for dogs receiving 32 mg/kg/day included increased serum potassium and decreased serum glucose and CPK levels. None of these changes was accompanied by correlative manifestations.

The results of electrocardiography of TNT treated dogs showed a decrease in the heart rate and an increase in PQ and QT intervals with time but not dose-related. Ophthalmology results also did not reveal treatment-related abnormalities in either sex.

In summary, the major toxic effects following the oral administration of TNT to dogs included hemolytic anemia, enlarged livers and spleens with their accompanying histologic lesions, and death. Only the highest dose given (32 mg/kg/day) proved to be lethal. Hepatocytic cloudy swelling and enlarged liver cells were apparent at all doses tested, thus a no observable effect level was not established in this study.

FOREWORD

The U.S. Army Medical Bioengineering Research and Development Laboratory (USAMBRDL), Fort Detrick, Frederick, MD has been conducting a research program since 1973 for the purpose of developing the scientific data base necessary for recommending water quality criteria for compounds unique to the munitions industry. A water quality criterion (as defined by the amended Clean Water Act, 1977) is a qualitative or quantitative estimate of the concentration of a pollutant in ambient waters that, when not exceeded, will ensure a water quality sufficient to protect a specified water use. The criterion is a scientific entity based solely on data and scientific judgement. It does not reflect considerations of economic or technological feasibility. Currently, a water quality criterion consists of two separate numerical limits, one for the protection of human health and the other for the protection of aquatic organisms. These numbers, when translated by the appropriate regulatory agency, can be the basis of enforceable discharge or effluent limitations in a point source discharge permit issued under the Clean Water Act.

Since a water quality criterion is to protect designated water uses, a diverse, multidisciplinary research program was developed by USAMBRDL that includes "effects" studies on laboratory and domestic animals, wildlife species, aquatic organisms, plants, and economically important crops. In addition, extensive chemical and biological fate and persistence tests are being conducted to provide information on the behavior of a pollutant in the aqueous environment. These kinds of data are especially useful for making site-specific translation of criteria into enforceable discharge limits.

This report represents a portion of the mammalian toxicology data base being developed by USAMBRDL on 2,4,6-trinitrotoluene.

Animal Experimentation: Animal experiments were conducted according to the "Guide for the Care and Use of Laboratory Animals" (1978), DHEW Publication No. (NIH) 78-23, prepared by the Committee on Care and Use of Laboratory Animals of the Institute of Laboratory Animal Resources, National Research Council; the regulations and standards prepared by the Department of Agriculture; and the Public Law 91-579, "Laboratory Animal Welfare Act" (1970).

Disclaimer: The findings in this report are not to be construed as an official Department of the Army position unless so designated by other authorized documents.

Citation of commercial organizations and trade names in this report do not constitute an official Department of the Army endorsement or approval of the products or services of these organizations.

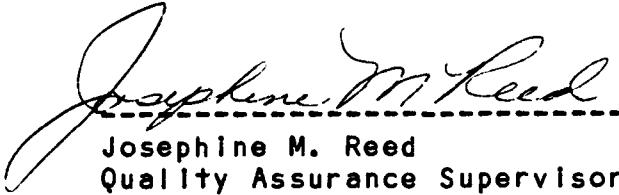
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This report was prepared at IIT Research Institute, 10 West 35th Street, Chicago, Illinois 60616, under U. S. Department of Army Contract No. DAMD17-79-C-9120 (IITRI Project No. L6116) entitled "Determination of the Chronic Mammalian Toxicological Effects of TNT". Mr. Jesse J. Barkley, Jr., Environmental Protection Research Division, USAMBRDL, served as the Contract Officer's technical representative for this program.

The work reported herein was conducted in the Toxicology and Pharmacology Section of the Life Sciences Division, and represents a portion of the overall effort of the above named research program. Paul M. Lish, Ph.D., Scientific Advisor, served as Principal Investigator. Barry S. Levine, D.Sc., Senior Toxicologist, served as study director and toxicologist, and was responsible for the overall conduct of the study. John M. Burns, DVM, Senior Veterinary Pathologist, was responsible for supervision of gross necropsies and tabulation of gross necropsy data. John H. Rust, DVM, Ph.D., Consultant, Veterinary Pathology, was responsible for tabulation and evaluation of histopathology data. Samuel Terese, B.S., Associate Technologist, was responsible for clinical pathology measurements. Bobby Rae Collins, DVM, M.S., Senior Veterinary Clinician, supervised animal care personnel. Robert Renaud, B.S. and David Schramm, B.S. were responsible for the collection of test data. Josephine M. Reed, M.M., M.S., Supervisor, Quality Assurance, and Kirit Parikh were responsible for the quality assurance program. Robert Remaly, B.S., Senior Engineer, prepared the test article premixes. Hugh J. O'Neill, Ph.D., Manager, Analytical Chemistry, and Walter C. Eisenberg, Ph.D., Senior Chemist, were responsible for chemical analyses of the test article and dosage formulations. Robert Gibbons, Ph.D., Consultant, Statistics, was responsible for the statistical analyses.

QUALITY ASSURANCE STATEMENT

Biological laboratory inspections were performed on March 31, May 22, June 18 and 24, July 29, October 20 and November 6 and 11, 1980. Data Audit was performed between December 17, 1981 and January 15, 1982. The final draft report was audited between April 29 and May 9, 1983. Inspections and audits were performed by Josephine Reed, Susan Nadolny, Julie McPhillips, and Kirit Parikh. The study was found to meet Life Sciences Quality Assurance criteria. Specimens and raw data generated during the study will be retained in the IITRI Life Sciences Archives as specified in standard operating procedures.



Josephine M. Reed
Quality Assurance Supervisor

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≤ 0.05 was considered statistically significant and Dunnett's \pm test was used for pair-wise comparisons when appropriate. Individual animal data can be found in Appendix VI.

III. RESULTS

A. Clinical Observations and Mortality

Ataxia was observed for some of the males and females receiving 32 mg/kg/day. This was primarily seen from the onset of dosing through approximately Test Week 6, and only infrequently thereafter. Orange/brown urine and orange-red feces were present throughout the dosing period for several dogs administered 32 and to a much lesser extent 8 mg/kg/day. Other signs of toxicity, which were confined to the high dose animals, included darkening of the tongue and/or gums, and evidence of jaundice. These were apparent by approximately Test Week 10 and were observed on occasion until termination.

Masses were observed for three animals. An oval shaped mass projecting from the right elbow was first seen for a 0.5 mg/kg/day female during Test Week 25. It was subsequently diagnosed as part of a bursitis syndrome. At Test Week 23, an 8.0 mg/kg/day female demonstrated an oval mass on its medium ventral surface. One female receiving 32 mg/kg/day was found to have a round mass on its lower right hind leg, which first appeared during Test Week 15. This last mass slightly increased in diameter while the masses on the other two dogs did not change. Histologic examination of the masses for the 8 and 32 mg/kg/day females were non-remarkable.

One high dose female was considered to be moribund during Test Week 14 and was immediately sacrificed. The animal showed signs of dehydration and emaciation, had a depressed body temperature, and was in an advanced icteric state. A second high dose female was found dead during Test Week 16. Prior to death, it showed considerable weight loss, diarrhea and ataxia.

B. Body Weight

Treatment-related reductions in body weight gains and/or body weight losses were apparent for TNT-treated animals of both sexes throughout the 26 week treatment period. Statistically significant results (body weight losses) were seen at the 8 (males only) and 32 mg/kg/day dose levels, however body weights were, in general, lower for all TNT treatment groups compared to respective

Lymph nodes:
Mesenteric
Respiratory
Mandibular

Trachea
Ureter
Urinary bladder
Uterus

Organs marked with asterisks (*) were weighed at the time of necropsy.

Bone marrow (sternum) smears were routinely obtained, air-dried and fixed in absolute methanol. All tissues and/or organs were examined in situ before dissection from the carcass for individual examination. The right diaphragmatic lung lobe and lobes having gross lesions were gently infused via the main bronchus with 10% neutral buffered formalin (NBF) before immersion in 10% NBF. The remaining lobes were collected without infusion.

Eyes and testes were fixed in 3% glutaraldehyde and Bouins solution, respectively, for 24 hours. They were transferred to 50% ethanol for 24 hours, then stored in 70% ethanol. An intact sternebra was taken while a second sternebra was opened and a bone marrow smear prepared using a "paint brush" technique. Brains were fixed in NBF without sectioning until the tissue trimming stage.

All other tissues were fixed in NBF at thicknesses not to exceed 1.5 cm. Volume of NBF used was at least 10 times tissue volume. Three partial cross-sections of brain were made to include representative portions of the frontal cortex and basal ganglia, parietal cortex and thalamus, and cerebrum and pons. Dorsal and ventral right diaphragmatic lung lobe sections were taken. All tissues were cut at 4 to 6 microns, and stained with hemtoxylin and eosin.

Microscopic examination of all tissues collected at necropsy was performed for all test animals by Dr. John Rust, Consultant, Veterinary Pathology. Dr. John Sagartz, Consultant, Veterinary Pathology, in addition to Dr. Rust, examined eye sections.

D. Statistical Analysis

Statistical analysis of quantitative data was accomplished by two way (sex x dose) "fixed effects" analysis of variance tests. The analyses were performed on change scores (i.e. test week - baseline) for body weight, food consumption, clinical chemistry, hematology and electrocardiography data, and on Myeloid:Erythroid ratios and absolute and relative organ weight data. A p value of

All test animals received ophthalmic examinations in Test Weeks -1, 13 and 25. These examinations were performed in random order on the same day for all test animals by Susan West, DVM, Consultant, Veterinary Ophthalmology, University of Illinois. Electrocardiograms (ECGs) were obtained for all test animals in Test Weeks -1, 13 and 25 in the same random order as that used for collection of blood samples. Heart rates and PQ and QRST intervals were routinely measured from lead AVF data. ECG data were evaluated by Robert L. Hamlin, DVM, Ph.D., Consultant, Veterinary Cardiology, Ohio State University.

All surviving test animals were sacrificed and necropsied during Test Week 27 following a 16-18 hr fast. Body weights were recorded just prior to sacrifice. Two dogs were necropsied during the dosing period; one was found dead while the other dog was sacrificed in a moribund state. The surviving test animals were sacrificed over five consecutive days in random order. The method of euthanasia was induction of unconsciousness by intravenous injection of pentobarbital sodium, Nembutal sodium solution (Abbott Laboratories, North Chicago, IL), 50 mg/kg, and exsanguination by severing the axillary vessels. The necropsy procedure was a thorough and systematic examination of the animal viscera and carcass, and collection and fixation of the following tissues for microscopic examination.

Gross lesions - all	Liver*
tissues	Lungs and mainstem
Tissue masses or suspect	bronchi
tumors	Mammary gland
Adrenals*	Muscle thigh
Aorta	Pancreas
Brain*	Pituitary*
Colon	Prostate
Costochondral junction	Salivary gland
(rib)	(submaxillary)
Duodenum	Sciatic nerve
Esophagus	Skin (abdominal)
Eyes (globe, lens and	Spinal cord
optic nerve)	Spleen
Gall bladder	Sternebrae including
Gonads*	marrow
Heart*	Stomach
Ileum	Thymus
Jejunum	Thyroids (with para-
Kidneys*	thyroids)*

dosing. They were also observed once daily during Test Week -1. Daily food consumption measurements were performed once weekly from Test Week -3 until termination. The test animals were routinely medicated between 0800-1000. Blood samples were collected after an approximate 16-18 hour fast during Test Weeks -3,-1, 3, 8, 12, 17, 21, and 26. Urine samples were obtained during the fasting period. The samples were collected and analyzed in a randomized fashion over a 3 or 2 consecutive day period during the pretest and test phases, respectively. The following clinical pathology parameters were routinely measured:

Hematology

Hematocrit	Prothrombin time
Hemoglobin	Methemoglobin
Mean corpuscular	Erythrocyte count
volume (MCH)	Leukocyte count, total
Mean corpuscular	and differential
hemoglobin (MCH)	Reticulocyte count
Mean corpuscular	Platelet count
hemoglobin concen-	Clotting time
tration (MCHC)	

Clinical Chemistry

Lactic dehydrogenase	Globulin (calculated)
(LDH)	A/G (calculated)
Creatine phosphokinase	Calcium
(CPK)	Glucose
Glutamic-pyruvic	Potassium
transaminase (SGPT)	Chloride
Glutamic-oxaloacetic	Bilirubin, total and
transaminase (SGOT)	direct
Alkaline phosphatase	Cholesterol
Urea nitrogen (BUN)	Triglycerides
Total protein	Sodium
Albumin	

Urinalyses

Color and appearance	pH
Specific gravity	Glucose
Protein	Ketones
Occult blood	Bilirubin
Urobilinogen	Microscopic examination of
	spun sediment

The methods used to measure the above parameters are listed in Appendices III (hematology), IV (clinical chemistry) and V (urinalyses).

unthriftiness, poor hair coat, discharges from body openings, abnormal feces, etc. Two fecal samples, two weeks apart, were collected from each animal during the quarantine period and tested for endoparasites. All test animals received daily rations of 400 g of Purina Dog Chow except during 16-18 hour fasting periods prior to blood collection or routine sacrifice. Water was available ad libitum as provided by automatic watering dispensers. Each dog was identified by a USDA number which appeared as an ear tattoo. Animals placed on test also received a study-unique test animal number (N=60) which also appeared as an ear tattoo.

C. Experimental Design

Thirty dogs of each sex were evenly allocated, within sex, to five treatment groups by a restricted randomization procedure (stratified by weight; blocked design). Litter mates found in the same treatment group were randomly reassigned. This procedure was performed at the onset of Test Week -2. The selection of the 60 test animals from the shipment of 72 dogs was based on clinical examinations, endoparasite tests and clinical chemistry, hematology and urinalysis data collected in Test Week -3. The test animals were evenly housed into two rooms such that three dogs/sex/treatment group were housed next to each other and the females were caged above the males. The five treatment groups in this study were as follows:

<u>Group</u>	<u>Treatment</u>	<u>Dose Level</u> <u>(mg/kg/day)</u>	<u>Animals/</u> <u>Sex</u>	Male	Female
				<u>Test Animal</u> <u>Nos.</u>	<u>Test Animal</u> <u>Nos.</u>
I	-	0.0	6	1-6	7-12
II	TNT	0.5	6	13-18	19-24
III	TNT	2.0	6	25-30	31-36
IV	TNT	8.0	6	37-42	43-48
V	TNT	32.0	6	49-54	55-60

Body weight ranges during Test Week -1 were 8.6-11.3 kg (males) and 6.5-10.2 kg (females).

TNT was orally administered on a daily basis from Test Day 1 (May 16, 1980) until routine termination in Test Week 27 (Nov. 4-8, 1980). In addition, all test animals received a blank gelatin capsule during Test Week -1. One capsule per day was administered throughout the study.

Physical examinations including body weights and palpations for masses were conducted once weekly commencing with Test Week -3 until termination. All animals were observed immediately before and 1-2 and 4-6 hours following

The results showed that 59.1% of the TNT particles were below 44 um and 85% were less than 110 um.

Undiluted TNT was handled by Chemistry personnel at the Kingsbury facility in accordance with procedures for explosive and fire hazards. Toxicology personnel received TNT as approximate 10% and 50% mixes in Purina Certified Rodent Chow No. 5002, Ralston Purina Co., St. Louis, MO, which posed little explosive or fire hazard. Mixes were received monthly, stored at 0-4 degrees, and were chemically analyzed for TNT concentration prior to their use. The method employed for the chemical analyses of TNT in these mixes and the analytical results are described in Appendix I. TNT mixes have previously been shown to be stable (3).

Gelatin capsules (Lilly No. 000) were used to administer the test article, and the actual amount of TNT given to each test animal was calculated on the basis of its previous week's body weight and the analytical results of the TNT mix used. The 10% and 50% mixes were used for the two lowest and two highest dose levels, respectively, and seven capsules were prepared weekly for each dog. Control dogs received capsules containing unaltered Purina No. 5002 rodent chow at the same dosing volume as the highest dose. Chemical analyses of a representative batch of empty gelatin capsules were provided by Eli Lilly and Co., Indianapolis, IN, and appear in Appendix II.

B. Test Animals

Thirty six beagle dogs of each sex were received from Marshall Research Animals, Inc., North Rose, NY on February 28, 1980. The animals were four months old, and appeared to be in good condition upon arrival. Body weights of five randomly selected dogs per sex were 7.5 ± 0.5 kg (males) and 6.6 ± 1.2 kg (females). They were placed in quarantine in individual cages, the size of which conformed to the upper weight range as described in the Guide For The Care and Use Of Laboratory Animals, DHEW (NIH) No. 78-23. These cages were located in two temperature controlled (21-23 degrees centigrade) rooms at ambient relative humidity (approximately 40-60%). No other test animals were in these rooms. The cages were cleaned twice daily throughout the quarantine, pretest, and test periods except on weekends when they were cleaned once daily.

Within one week after arrival, the dogs were examined by a clinical veterinarian. All animals appeared to be in good health, and no ectoparasites were found. During the quarantine period, the animals were observed by the technical staff for signs of disease such as general

I. INTRODUCTION

The U.S. Army Medical Research and Development Command (USAMRDC) has been directed to evaluate the potential hazards to living systems of wastewater discharges from munitions facilities. Of primary concern are the toxicologic effects of 2,4,6-trinitrotoluene (TNT; CAS Reg. No. 118-96-7) to mammalian systems. This high explosive is routinely used in filling shells and bombs. Wastewaters resulting from the loading of this explosive into shells are discharged into the environment without significant treatment, and are subject to limitations imposed by governmental regulatory agencies. Evaluation of the potential hazards of these wastewaters to human health is therefore a necessary portion of the data-base required to establish comprehensive environmental criteria.

The present study was conducted to aid in this evaluation and assessed the toxicity of TNT in beagle dogs when administered once a day by capsule for at least 26 weeks. The experimental design was based on EPA's Proposed Health Effects Test Standards For Toxic Substances Control Act Test Rules. Subpart C- Acute and Subchronic Health Effects (1). All laboratory methods and procedures were conducted in accordance with the IITRI Quality Assurance Program designed to comply with FDA Good Laboratory Practice Regulations (2). Thus, all terms used in this report, e.g. test article, raw data, specimens, etc., are in agreement with the definitions set forth in the aforementioned document.

II. MATERIALS AND METHODS

A. Test Article

TNT, batch no. Vol 11-011, grade one flake, 100 pounds, was made available for this study from stocks at the IITRI Kingsbury Ordnance Plant (KOP) Explosive facility, LaPorte, IN. The test article was stored at the facility at ambient room temperature and relative humidity, and in the dark. Upon availability for the study, a 30 g sample was taken and stored under conditions identical to those for the batch.

The purity of the test article was determined by high performance liquid chromatography as described in Appendix I. Analytical standards were provided by the sponsor and found to have a purity of $99.1 \pm 0.4\%$. Particle size analysis of a 50% mix was done in November of 1979 by the Fine Particles Research Section of the Chemistry and Chemical Engineering Division of IIT Research Institute.

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controls. The observed body weight losses for both sexes were progressive until approximately Test Weeks 18-22, at which time slight body weight gains were apparent until study termination. At Test Week 26, mean body weight losses for animals receiving 32 mg/kg/day, relative to Test Week 1, were 0.52 kg and 0.10 kg for males and females, respectively. By contrast, body weight gains for control animals at that time point were 0.88 kg for males and 1.13 kg for females (Tables 1-4).

C. Food Consumption

Significant reductions in food consumption for animals receiving 32 mg/kg/day were seen during most of the 26 week treatment period. In addition, females at the 8 mg/kg/day dose level showed reduced food intake during Test Week 1. Food consumption was unaffected for the other treatment groups (Tables 5 and 6).

D. Hematology

Dose-dependent anemia (decreased hematocrit, hemoglobin, and erythrocyte counts) was observed for TNT-treated dogs. Significant reductions in these parameters were seen for males and females receiving either 8 or 32 mg/kg/day. This was observed at the first sampling point (Test Week 3), and persisted throughout the 26 week treatment period. The severity of the anemic state was similar at all observation periods with animals at the high dose demonstrating approximate 20-30% reductions in RBC counts. Methemoglobinemia was also apparent at the two highest doses.

Compensatory responses which occurred as a result of the anemic state included reticulocytosis, macrocytosis, and elevated levels of nucleated erythrocytes. Macrocytic erythrocytes were marginally hypochromic, although absolute mean corpuscular hemoglobin levels were unaffected. In addition, bone marrow myeloid:erythroid ratios were significantly reduced for dogs receiving 8 or 32 mg/kg/day.

Leukocytosis accompanied by neutrophilia was observed for animals receiving 32 and to a lesser extent 8 mg/kg/day. Animals at these doses also displayed thrombocytosis (Tables 7-47).

E. Clinical Chemistry

Slight but statistically significant increases in serum globulin levels were seen for TNT-treated dogs. Total protein, albumin, and albumin/globulin ratios, however, were

similar among treatment groups. Dose-dependent decreases in SGPT were seen for both sexes throughout the 26 week treatment period. Females were apparently more sensitive than males and demonstrated statistically significant reductions at 2 mg/kg/day. Increases in serum LDH were seen for males and possibly females receiving 32 mg/kg/day. Both total and direct (conjugated) bilirubin were elevated at this dose with the exception of a lack of effect on direct values for females. Treatment-related effects on serum cholesterol levels were equivocal. Slight increases were seen for males at 8 but not 32 mg/kg/day, whereas females at the higher dose may have demonstrated slight decreases.

Although slight increases in serum potassium levels were seen for females receiving 32 mg/kg/day, no other electrolyte imbalances were observed. Other changes in clinical chemistry parameters which may or may not have been related to treatment included decreased glucose at 32 mg/kg/day and for males at 8mg/kg/day, and decreased CPK for males but not females at 8 and 32 mg/kg/day (Tables 48-85).

F. Urinalyses

The urine of dogs receiving 32 and to a significantly lesser extent 8 mg/kg/day was light to dark brown in appearance throughout the 26 week treatment period. Urinary bilirubin levels were significantly elevated at 32, 8 and possibly 2 mg/kg/day, commencing at Test Week 17 and thereafter. In addition, trace levels of urobilinogen were observed during this time for 32 mg/kg/day-treated dogs. Urinary protein levels appeared to be increased at Test Week 26 for dogs receiving 8 or 32 mg/kg/day. No other urinary parameters appeared to be affected by TNT administration (Tables 86-103).

G. Ophthalmology

The ophthalmology report is contained in Appendix VII. There were no ocular lesions observed at Test Week 13 which appeared to be related to TNT treatment. During the Test Week 25 examinations a number of animals were observed to have vitreal stranding or haze in one or both eyes. There did not appear to be a sex effect, and the incidences of this alteration were as follows: controls (2/12); 0.5 mg/kg/day (1/12); 2.0 mg/kg/day (2/12); 8 mg/kg/day (5/12); 32 mg/kg/day (5/10). In addition, a 2.0 mg/kg/day female demonstrated a retinal exudate and a high dose female exhibited sheathing of retinal vessels. In view of the distribution of these findings, it was not possible to determine whether or not they were treatment-related.

Subsequent histopathologic examination of the eyes by two pathologists failed to detect treatment-related abnormalities.

Variations of normal recorded during Test Weeks -1, 13 and 25 included retinal pigment variations, variation in the size of the optic nerve head, variations in tapetal reflection, and prominent lens suture lines. Persistent pupillary membranes for a 0.5 mg/kg/day male and a persistent hyaloid membrane for a 2.0 mg/kg/day male were seen at Test Week 13, but were considered to be developmental abnormalities and not related to TNT administration. Unusual tapetal coloration was apparent at Test Week 13 for a 0.5mg/kg/day male and a 8 mg/kg/day female, but were considered to be an extreme variation of normal apparently not recorded at Test Week -1. A small superficial corneal scar was noted at Test Week 13 for a 0.5 mg/kg/day female, this was not apparent at the Test Week 25 examination (Tables 104 and 105).

H. Electrocardiography

The electrocardiography report is contained in Appendix VIII. Electrocardiography tracings did not reveal any effects which were attributable to TNT treatment. Decreases in heart rate and increases in PQ and QT intervals with time were seen for all groups and were not dose-related (Tables 106-108).

I. Organ Weights

Dose-dependent hepatomegaly (8 and 32 mg/kg/day) was seen for TNT-treated males. Only high dose females demonstrated increased relative liver weights. Splenomegaly occurred for females receiving either 8 or 32 mg/kg/day, but only at the latter dose for male dogs. A slight but statistically significant increase in renal weights was seen for high dose females but not males. No other organ weights appeared to be affected by TNT treatment (Tables 109-112).

J. Pathology

The Pathology Report is contained in Appendix IX. At scheduled necropsy, four of six male and three of four female dogs receiving 32 mg/kg/day demonstrated enlarged livers. In addition, two of the livers for each sex appeared friable. These findings were considered to be consistent with hepatocytic cloudy swelling and hepatocytomegalia.

Hepatocytic cloudy swelling, which generally increased in severity as a function of dose was present in all TNT treatment groups, but was not seen for control animals. At 0.5 mg/kg/day, five males and two females of six animals per sex demonstrated trace to mild lesions. By contrast, 32 mg/kg/day resulted in moderate to marked severity for this morphologic alteration for five of six males and the four females terminated at scheduled necropsy. The female which spontaneously died and the female which was sacrificed did not show evidence of this lesion.

Hepatocytomegalia of trace to mild severity was observed in five of six males and two of six females receiving 0.5 mg/kg/day. None of the control animals demonstrated this lesion. As in the case of hepatocytic cloudy swelling, hepatocytomegalia increased in severity as a function of dose, and moderate to marked conditions of this lesion occurred for five of the six males and three of four females at scheduled termination. It is not seen for the spontaneous death or moribund sacrifice.

Hemosiderosis in histocytes or Kupffer cells of the liver was seen for one female at 2 mg/kg/day (trace) and for all animals at 8 or 32 mg/kg/day, except for the two females necropsied prior to schedule and one male high dose animal. The severity of this lesion increased as a function of dose. Microscopic evidence for hepatic cirrhosis was observed for one male receiving 8 mg/kg/day, all six males at 32 mg/kg/day and for one female at this latter dose.

At scheduled necropsy, enlargement of the spleen appeared to be related to TNT administration. It was apparent for all males and females receiving 32 mg/kg/day (except for the spontaneous death), and to a lesser extent at lower dose levels. Histologically, marked to severe generalized congestion of the spleen was observed primarily for male and female receiving either 8 or 32 mg/kg/day. On the basis of incidence and/or severity, splenic hemosiderosis appeared to be related to the administration of 2, 8 or 32 mg/kg/day; the results at 0.5 mg/kg/day were equivocal. Five of ten dogs in the high dose treatment group at scheduled necropsy also demonstrated extramedullary erythropoiesis (spleen).

Membranous enteritis involving at least one level of small intestine appeared to be related to TNT treatment. Although not apparent at necropsy, this lesion was characterized microscopically by retention of villous tips and the presence of an inflammatory serous and cellular exudate within the body of villi. The incidence and severity of this morphologic alteration were similar at all

dose levels, with the possible exception of a higher incidence at 32 mg/kg/day. Membranous enteritis was not seen for any of the control animals.

Erythroid hypoplasia was observed in some dogs of all treatment groups receiving TNT. It was not seen for any of the control animals. The incidence and/or severity of this change generally increased as a function of dose. Myeloid:erythroid ratios were subsequently determined from bone marrow smears, and suggested that 32 and possibly 8 mg/kg/day resulted in a reduction of this parameter.

Gross pathologic changes of the thyroids were not apparent although bilateral C-cell hyperplasia was seen for animals in all groups including controls. All of the females (6/6 in each group) demonstrate this morphologic change, with the frequency for males ranging from 4/6 to 6/6. The severity of this microscopic change appeared to be greater for animals receiving 32 mg/kg/day than for control animals, and males may have been more affected than females.

Enlarged, pigmented lymph nodes were observed at necropsy for one 8 mg/kg/day and three TNT 32 mg/kg/day females. No microscopic change corresponding to this observation was found (Table 113).

IV. DISCUSSION

This study examined the oral toxicity of TNT in beagle dogs following daily administration for 6 months. TNT was found to be lethal at the highest dose tested (32 mg/kg/day), as one female was sacrificed in a moribund state during Test Week 14 while another female died in Test Week 16. Prior to these conditions, these animals became dehydrated, emaciated, ataxic, icteric and hypothermic. Additional clinical signs of toxicity observed at this lethal dose level included orange-brown urine and feces, and darkening of the tongue and/or gums. In addition, high dose dogs showed reduced food intake with associated loss of body weight. Slight reductions in body weight gains were apparent at lower dose levels.

The presence of icterus at the 32 mg/kg/day dose level was supported by elevated bilirubin levels in serum and urine, and increased urobilinogen values. This was consistent with the observed anemic state (reduction in hematocrit, hemoglobin, and RBCs) for animals receiving either 8 or 32 mg/kg/day. Physiologic compensatory responses to anemia at these doses included reticulocytosis, macrocytosis, and elevated numbers of nucleated RBCs. Methemoglobinemia was also seen at the 8 and 32 mg/kg/day

dose levels. A hemosiderin-like pigment in macrophages of the spleen and liver, and sinusoidal congestion of the splenic red pulp with accompanying splenomegaly were seen primarily at the higher doses. These observations suggested that TNT-induced anemia was hemolytic in origin. Methemoglobin production indicative of the oxidizing nature of TNT and/or its metabolites supports this concept. Erythrocytic hypoplasia of bone marrow was seen, however this may have been due to a direct hemolytic effect on RBC precursors.

Liver injury following the administration of TNT was primarily observed from the histologic examination. Hepatocytomegalia and hepatocytic cloudy swelling were seen at all dose levels tested with the incidence and/or severity of these lesions generally increasing as a function of dose. Hepatomegaly and microscopic evidence of cirrhosis were also seen, but were restricted to the 8 and/or 32 mg/kg/day dose levels. Additional observations which may have been suggestive of hepatotoxicity included slight increases in LDH at 32 mg/kg/day and dose-dependent reductions of SGPT. This latter effect was seen at all doses except 0.5 mg/kg/day, the lowest dose level tested.

Thrombocytosis and leukocytosis with accompanying neutrophilia were seen at 32 and to a lesser extent 8 mg/kg/day. As mentioned above, bone marrow erythrocytic hypoplasia was apparent at these dose levels. Thus, the observation of a dose-dependent decrease in bone marrow M:E ratios is surprising.

Renal weights were increased for females but not males receiving 32 mg/kg/day. Urinary protein levels were elevated at 8 and 32 mg/kg/day, however histologic changes in the kidneys were not in evidence. Additional observations noted primarily for dogs receiving 32 mg/kg/day included increased serum potassium and decreased serum glucose and CPK levels. None of these changes was accompanied by correlative manifestations.

In summary, the major toxic effects following the oral administration of TNT to dogs included hemolytic anemia, hepatomegaly and splenomegaly with their accompanying histologic lesions, and death. Only the highest dose given (32 mg/kg/day) proved to be lethal. Hepatocytic cloudy swelling and hepatocytomegalia were apparent at all doses tested, thus a no observable effect level was not established in this study.

V. RECOMMENDATIONS

This study was conducted to evaluate the subchronic toxicity of TNT in a nonrodent species (beagle dog). As described in the preceding discussion section, liver injury as demonstrated by histologic changes was seen at all doses tested. A no observable effect level was therefore not established. The determination of this dose level is useful in defining apparent safe levels to which humans and wildlife species may be exposed. This, additional studies to examine the hepatic toxicity of TNT in beagle dogs may be warranted.

VI. REFERENCES

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2. Proposed Health Effects Test Standards for Toxic Substances Control Act Test Rules. Subpart C-Acute and Subchronic Health Effects. Subchronic oral dosing studies. Fed. Reg. 40 CFR Part 772, 44072-44075, 1979.
3. Levine, B.S., Furedi, E.M., Gordon, D.E., Burns, J.M., and Lish. Thirteen week oral (diet) toxicity study of trinitrotoluene (TNT), hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) and TNT/RDX mixtures in the Fischer 344 rat. Final Report No. L6116/L6121 Study No. 1. November 1981.

TABLES

Table 1

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 BODY WEIGHT MEASUREMENTS OF MALE DOGS
 MEAN AND S.D. (G)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	9.4 ± 0.6	9.5 ± 0.9	9.3 ± 0.8	9.4 ± 0.7	9.3 ± 0.6
-2	9.6 ± 0.6	9.7 ± 0.8	9.5 ± 0.8	9.7 ± 0.7	9.6 ± 0.6
-1	10.1 ± 0.8	10.1 ± 0.7	9.9 ± 1.0	10.0 ± 1.1	9.8 ± 0.7
1	10.2 ± 0.9	10.1 ± 0.8	9.9 ± 1.0	9.8 ± 1.1	9.5 ± 0.8
2	10.0 ± 0.7	10.0 ± 0.7	9.5 ± 0.6	9.5 ± 0.5	9.4 ± 0.6
3	10.2 ± 0.7	10.1 ± 0.6	9.7 ± 0.8	9.7 ± 0.7	9.5 ± 0.7
4	10.2 ± 0.7	10.2 ± 0.8	9.7 ± 1.0	9.8 ± 0.7	9.7 ± 0.6
5	10.5 ± 0.7	10.4 ± 0.8	10.0 ± 0.8	9.7 ± 0.8	9.8 ± 0.4
6	10.7 ± 0.6	10.4 ± 0.8	10.0 ± 1.0	10.0 ± 1.1	9.8 ± 0.6
7	10.8 ± 0.6	10.4 ± 0.8	10.2 ± 1.0	9.9 ± 1.0	10.0 ± 0.5
8	11.2 ± 0.4	10.9 ± 1.0	10.6 ± 0.9	10.1 ± 1.1	9.7 ± 0.6*
9	10.7 ± 0.5	10.3 ± 1.0	10.0 ± 1.0	9.7 ± 1.2	9.4 ± 0.4
10	10.7 ± 0.5	10.4 ± 1.1	10.1 ± 0.9	9.6 ± 1.2	9.4 ± 0.8
11	10.7 ± 0.5	10.2 ± 1.1	10.2 ± 0.9	9.5 ± 1.3	9.2 ± 0.9*
12	10.6 ± 0.3	10.2 ± 1.1	10.1 ± 1.0	9.4 ± 1.2	9.3 ± 0.8

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 1 (continued)

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

BODY WEIGHT MEASUREMENTS OF MALE DOGS
MEAN AND S.D. (G)
TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
13	10.8 ± 0.3	10.5 ± 1.1	10.4 ± 0.9	9.5 ± 1.1*	9.2 ± 0.7*
14	10.7 ± 0.2	10.4 ± 1.1	10.2 ± 1.0	9.5 ± 1.1	8.9 ± 0.7*
15	10.7 ± 0.2	10.3 ± 1.1	10.3 ± 0.9	9.3 ± 1.1*	9.0 ± 0.6*
16	10.9 ± 0.3	10.4 ± 1.1	10.5 ± 0.8	9.5 ± 1.0*	8.9 ± 0.7*
17	11.0 ± 0.1	10.6 ± 1.2	10.5 ± 0.8	9.6 ± 1.0*	8.9 ± 0.8*
18	10.9 ± 0.2	10.4 ± 1.1	10.5 ± 0.8	9.5 ± 1.0*	8.8 ± 0.8*
19	10.9 ± 0.2	10.4 ± 1.0	10.4 ± 0.8	9.4 ± 1.0*	9.0 ± 0.8*
20	10.9 ± 0.3	10.4 ± 1.1	10.4 ± 0.9	9.4 ± 1.0*	9.1 ± 0.5*
21	11.0 ± 0.4	10.4 ± 1.2	10.4 ± 1.0	9.4 ± 1.1*	9.1 ± 0.5*
22	10.9 ± 0.4	10.3 ± 1.1	10.3 ± 0.9	9.2 ± 1.1*	9.0 ± 0.5*
23	10.8 ± 0.4	10.2 ± 1.1	10.2 ± 1.0	9.0 ± 1.1*	9.1 ± 0.5*
24	10.9 ± 0.4	10.3 ± 1.1	10.3 ± 1.0	9.3 ± 1.1*	9.2 ± 0.5*
25	10.9 ± 0.4	10.3 ± 1.1	10.3 ± 0.9	9.2 ± 1.1*	9.3 ± 0.5*
26	11.0 ± 0.5	10.4 ± 1.2	10.3 ± 0.9	9.2 ± 1.0*	9.3 ± 0.5*
T	11.2 ± 0.6	10.6 ± 1.5	10.7 ± 1.3	9.3 ± 1.2*	9.4 ± 0.4*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 2

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

BODY WEIGHT MEASUREMENTS OF MALE DOGS
 MEAN AND S.D. (G)
 TREATMENT GROUP (MG/KG/DAY)
 CHANGE FROM WEEK -1

TEST WEEK	0.0	0.5	2.0	8.0	32.0
1	0.1 ± 0.2	0.0 ± 0.1	0.0 ± 0.1	- 0.2 ± 0.1*	- 0.3 ± 0.2*
2	- 0.1 ± 0.3	- 0.1 ± 0.1	- 0.5 ± 0.5	- 0.5 ± 0.7	- 0.4 ± 0.4
3	0.1 ± 0.4	0.0 ± 0.2	- 0.2 ± 0.5	- 0.4 ± 0.6	- 0.3 ± 0.5
4	0.1 ± 0.3	0.0 ± 0.3	- 0.2 ± 0.6	- 0.2 ± 0.6	- 0.1 ± 0.5
5	0.4 ± 0.4	0.2 ± 0.1	0.1 ± 0.5	- 0.3 ± 0.7*	0.0 ± 0.5
6	0.6 ± 0.5	0.3 ± 0.2	0.1 ± 0.6	- 0.1 ± 0.8	0.0 ± 0.4
7	0.7 ± 0.5	0.3 ± 0.3	0.2 ± 0.6	- 0.1 ± 1.0	0.1 ± 0.4
8	1.1 ± 0.5	0.7 ± 0.4	0.7 ± 0.6	0.1 ± 1.1	- 0.1 ± 0.5*
9	0.6 ± 0.8	0.1 ± 0.4	0.1 ± 0.6	- 0.3 ± 1.4	- 0.5 ± 0.4
10	0.6 ± 0.8	0.2 ± 0.5	0.2 ± 0.5	- 0.5 ± 1.4	- 0.5 ± 0.5
11	0.6 ± 0.8	0.1 ± 0.5	0.2 ± 0.5	- 0.6 ± 1.5	- 0.6 ± 0.6
12	0.5 ± 0.8	0.1 ± 0.4	0.2 ± 0.6	- 0.6 ± 1.5	- 0.6 ± 0.5
13	0.7 ± 0.7	0.4 ± 0.5	0.4 ± 0.6	- 0.5 ± 1.3*	- 0.6 ± 0.5*
14	0.6 ± 0.7	0.2 ± 0.5	0.3 ± 0.6	- 0.5 ± 1.4	- 0.9 ± 0.8*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

BODY WEIGHT MEASUREMENTS OF MALE DOGS
 MEAN AND S.D. (G)
 TREATMENT GROUP (MG/KG/DAY)
 CHANGE FROM WEEK -1

TEST WEEK	0.0	0.5	2.0	8.0	32.0
15	0.6 ± 0.7	0.1 ± 0.5	0.3 ± 0.6	- 0.7 ± 1.4*	- 0.9 ± 0.6*
16	0.8 ± 0.8	0.2 ± 0.5	0.6 ± 0.6	- 0.5 ± 1.3*	- 0.9 ± 0.8*
17	0.9 ± 0.8	0.4 ± 0.6	0.6 ± 0.5	- 0.4 ± 1.4	- 0.9 ± 1.1*
18	0.8 ± 0.7	0.2 ± 0.5	0.5 ± 0.5	- 0.5 ± 1.3	- 1.0 ± 1.1*
19	0.8 ± 0.7	0.3 ± 0.5	0.4 ± 0.4	- 0.6 ± 1.3*	- 0.9 ± 1.1*
20	0.8 ± 0.7	0.3 ± 0.6	0.5 ± 0.4	- 0.6 ± 1.3*	- 0.8 ± 0.8*
21	0.9 ± 0.7	0.2 ± 0.6	0.5 ± 0.3	- 0.6 ± 1.4*	- 0.8 ± 0.9*
22	0.8 ± 0.7	0.1 ± 0.6	0.4 ± 0.3	- 0.8 ± 1.5*	- 0.8 ± 0.8*
23	0.7 ± 0.7	0.0 ± 0.6	0.2 ± 0.3	- 1.0 ± 1.4*	- 0.8 ± 0.8*
24	0.8 ± 0.7	0.1 ± 0.6	0.4 ± 0.3	- 0.8 ± 1.5*	- 0.5 ± 0.7*
25	0.8 ± 0.7	0.2 ± 0.7	0.3 ± 0.4	- 0.8 ± 1.5*	- 0.5 ± 0.7*
26	0.9 ± 0.7	0.2 ± 0.7	0.4 ± 0.3	- 0.9 ± 1.5*	- 0.5 ± 0.7*
T	1.1 ± 0.8	0.4 ± 1.0	0.8 ± 0.5	- 0.7 ± 1.4*	- 0.4 ± 0.6*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, P < 0.05

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

BODY WEIGHT MEASUREMENTS OF FEMALE DOGS
 MEAN AND S.D. (G)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	8.1 ± 0.8	8.2 ± 1.1	8.2 ± 0.9	8.1 ± 0.8	8.4 ± 1.2
-2	8.4 ± 0.9	8.4 ± 1.1	8.4 ± 1.0	8.4 ± 1.0	8.5 ± 1.3
-1	8.4 ± 1.0	8.5 ± 1.2	8.7 ± 1.1	8.4 ± 1.0	8.6 ± 1.3
1	8.5 ± 1.1	8.6 ± 1.2	8.6 ± 1.1	8.3 ± 1.0	8.4 ± 1.2
2	8.5 ± 1.1	8.6 ± 1.2	8.5 ± 1.0	8.1 ± 1.1	8.2 ± 1.5
3	8.8 ± 1.2	8.8 ± 1.1	8.7 ± 1.0	8.2 ± 0.9	8.0 ± 1.5
4	8.9 ± 1.4	8.8 ± 1.1	8.9 ± 0.9	8.5 ± 0.9	8.1 ± 1.5
5	9.1 ± 1.3	9.1 ± 1.1	8.9 ± 1.0	8.5 ± 1.2	8.4 ± 1.5
6	9.2 ± 1.3	9.1 ± 1.2	9.1 ± 1.0	8.7 ± 1.2	8.5 ± 1.5
7	9.2 ± 1.4	9.2 ± 1.1	9.2 ± 1.0	8.7 ± 1.2	8.5 ± 1.6
8	9.4 ± 1.2	9.4 ± 1.2	9.5 ± 1.1	8.7 ± 1.2	8.5 ± 1.7
9	9.2 ± 1.5	9.0 ± 0.9	9.1 ± 1.2	8.5 ± 1.1	8.3 ± 1.6
10	9.2 ± 1.5	9.2 ± 1.0	9.3 ± 1.2	8.8 ± 1.1	8.5 ± 1.6
11	9.2 ± 1.6	9.3 ± 0.9	9.2 ± 1.3	8.8 ± 1.3	8.4 ± 1.8
12	9.1 ± 1.6	9.2 ± 1.0	9.3 ± 1.4	8.8 ± 1.3	8.3 ± 1.9

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

BODY WEIGHT MEASUREMENTS OF FEMALE DOGS
MEAN AND S. D. (G)
TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
13	9.3 ± 1.6	9.5 ± 0.9	9.4 ± 1.3	8.9 ± 1.3	8.2 ± 2.0
14	9.3 ± 1.7	9.3 ± 0.9	9.4 ± 1.3	9.0 ± 1.4	8.0 ± 2.3
15	9.3 ± 1.6	9.3 ± 0.8	9.3 ± 1.2	9.1 ± 1.2	8.2 ± 2.3
16	9.3 ± 1.7	9.4 ± 0.7	9.5 ± 1.3	9.2 ± 1.4	8.2 ± 2.4
17	9.2 ± 1.6	9.2 ± 0.9	9.4 ± 1.2	9.1 ± 1.4	8.7 ± 1.5
18	9.4 ± 1.8	9.3 ± 0.8	9.4 ± 1.3	9.1 ± 1.4	8.2 ± 1.1
19	9.3 ± 1.8	9.3 ± 0.8	9.4 ± 1.2	9.1 ± 1.4	8.1 ± 0.7
20	9.4 ± 1.8	9.2 ± 0.7	9.3 ± 1.2	9.2 ± 1.4	7.8 ± 0.5
21	9.4 ± 1.8	9.3 ± 0.7	9.4 ± 1.2	9.2 ± 1.4	7.9 ± 0.4
22	9.2 ± 1.8	9.0 ± 0.8	9.2 ± 1.3	9.0 ± 1.3	7.8 ± 0.4
23	9.3 ± 1.9	9.0 ± 0.8	9.2 ± 1.3	8.9 ± 1.4	8.0 ± 0.4
24	9.5 ± 2.0	9.0 ± 0.8	9.2 ± 1.2	8.9 ± 1.3	8.0 ± 0.5
25	9.5 ± 1.9	9.2 ± 0.8	9.2 ± 1.3	9.0 ± 1.3	8.3 ± 0.6
26	9.5 ± 2.0	9.1 ± 1.0	9.2 ± 1.3	9.0 ± 1.4	8.6 ± 0.9
T	9.6 ± 1.8	9.1 ± 0.7	9.3 ± 1.4	9.0 ± 1.3	8.7 ± 1.0

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, P < 0.05

STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS

MCV MEAN AND S.D. (MM³)
TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	70. ± 2.	69. ± 2.	70. ± 2.	70. ± 2.	70. ± 1.
-1	70. ± 1.	71. ± 2.	69. ± 1.	69. ± 1.	70. ± 2.
3	70. ± 1.	71. ± 2.	70. ± 2.	70. ± 1.	77. ± 3.*
8	69. ± 2.	69. ± 2.	70. ± 2.	72. ± 2.	75. ± 3.*
12	69. ± 2.	68. ± 2.	69. ± 1.	71. ± 2.	76. ± 3.*
17	69. ± 1.	69. ± 2.	68. ± 2.	71. ± 3.	73. ± 2.*
22	68. ± 2.	68. ± 2.	68. ± 0.	71. ± 2.*	74. ± 2.*
26	68. ± 1.	68. ± 2.	68. ± 1.	71. ± 1.*	74. ± 3.*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, P < 0.05

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS

MCV MEAN AND S.D. (MM³)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	70. ± 3.	68. ± 2.	68. ± 4.	70. ± 2.	70. ± 3.
-1	74. ± 9.	69. ± 3.	68. ± 3.	71. ± 1.	70. ± 2.
3	69. ± 2.	68. ± 3.	68. ± 4.	71. ± 2.	75. ± 3.*
8	68. ± 2.	66. ± 2.	67. ± 3.	70. ± 2.	75. ± 1.*
12	68. ± 2.	66. ± 2.	67. ± 3.	71. ± 2.	75. ± 1.*
17	67. ± 2.	66. ± 1.	67. ± 2.	70. ± 2.	74. ± 2.*
22	67. ± 2.	66. ± 2.	66. ± 2.	69. ± 2.	76. ± 2.*
26	67. ± 2.	66. ± 1.	67. ± 2.	70. ± 2.*	76. ± 1.*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, P < 0.05

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
 RBC MEAN AND S.D. (10^6 /MM³)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	6.4 ± 0.7	6.5 ± 0.3	5.9 ± 0.6	6.4 ± 0.5	6.2 ± 0.6
-1	6.4 ± 0.6	6.3 ± 0.5	6.3 ± 0.2	6.9 ± 0.7	6.6 ± 0.8
3	6.9 ± 0.6	6.5 ± 0.4	6.4 ± 0.3	6.4 ± 0.6	4.7 ± 0.5*
8	7.0 ± 0.7	6.7 ± 0.5	6.3 ± 0.4	5.8 ± 0.7*	5.3 ± 0.7*
12	6.8 ± 0.5	6.6 ± 0.4	6.2 ± 0.5	6.0 ± 0.6*	5.4 ± 0.5*
17	6.9 ± 0.6	6.7 ± 0.5	6.2 ± 0.3	5.9 ± 0.2*	5.1 ± 0.8*
22	7.0 ± 0.8	6.6 ± 0.5	6.3 ± 0.4	6.0 ± 0.3*	5.6 ± 0.4*
26	6.9 ± 0.4	7.1 ± 0.4	6.5 ± 0.4	6.1 ± 0.3*	5.3 ± 0.6*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN. P < 0.05

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS
 RBC MEAN AND S.D. (10^6 /MM³)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	6.1 ± 0.5	6.1 ± 0.1	6.4 ± 0.6	5.8 ± 0.5	6.2 ± 0.4
-1	6.1 ± 0.4	6.0 ± 0.2	6.3 ± 0.5	5.9 ± 0.4	6.1 ± 0.4
3	6.4 ± 0.4	6.5 ± 0.3	6.3 ± 0.5	5.7 ± 0.6	5.2 ± 0.4*
8	6.6 ± 0.3	6.7 ± 0.5	6.3 ± 0.5	5.5 ± 0.3*	5.4 ± 0.5*
12	6.7 ± 0.3	6.7 ± 0.2	6.4 ± 0.6	5.1 ± 0.2*	5.3 ± 0.3*
17	6.8 ± 0.5	6.7 ± 0.3	6.6 ± 0.4	5.2 ± 0.4*	5.1 ± 0.6*
22	6.7 ± 0.4	6.8 ± 0.3	6.6 ± 0.5	5.5 ± 0.3*	5.1 ± 0.7*
26	6.7 ± 0.5	6.8 ± 0.3	6.5 ± 0.4	5.4 ± 0.5*	5.1 ± 0.6*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 10

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
 HEMOGLOBIN MEAN AND S.D. (GX)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	15.3 ± 2.3	15.1 ± 0.5	13.9 ± 1.5	14.9 ± 1.1	14.7 ± 1.4
-1	15.3 ± 1.7	14.8 ± 1.2	14.5 ± 0.4	15.7 ± 1.6	15.6 ± 1.9
3	16.7 ± 1.5	15.5 ± 1.0	15.0 ± 0.9	14.3 ± 1.0*	10.4 ± 1.3*
8	16.7 ± 1.7	15.8 ± 1.2	14.6 ± 0.8*	13.4 ± 1.8*	11.8 ± 1.0*
12	16.3 ± 1.3	15.7 ± 0.8	14.5 ± 1.3*	13.6 ± 1.2*	12.0 ± 1.1*
17	16.4 ± 1.5	15.7 ± 1.2	14.4 ± 0.6*	13.6 ± 0.4*	11.0 ± 1.7*
22	17.0 ± 2.1	15.6 ± 1.4	14.6 ± 1.2*	13.8 ± 0.5*	12.3 ± 0.7*
26	16.6 ± 1.3	16.8 ± 0.9	15.1 ± 1.0	14.2 ± 0.7*	11.8 ± 1.5*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 9
 TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS
 HEMOGLOBIN MEAN AND S.D. (G%)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	14.5 ±	13.8 ±	14.3 ±	13.8 ±	14.6 ±
-1	15.2 ±	13.9 ±	14.2 ±	13.9 ±	14.2 ±
3	14.7 ±	14.8 ±	14.1 ±	13.0 ±	11.3 ±
8	15.4 ±	15.2 ±	14.1 ±	12.6 ±	12.3 ±
12	15.6 ±	15.2 ±	14.4 ±	11.8 ±	11.5 ±
17	15.7 ±	15.3 ±	15.0 ±	12.0 ±	11.0 ±
22	15.8 ±	15.4 ±	15.1 ±	12.5 ±	11.3 ±
26	15.6 ±	15.4 ±	14.8 ±	12.5 ±	11.3 ±

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 8

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
 HEMATOCRIT MEAN AND S.D. (%)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	44.4 ± 5.5	44.4 ± 1.2	40.9 ± 4.7	44.1 ± 3.0	43.1 ± 3.7
-1	44.6 ± 4.0	44.1 ± 3.1	42.9 ± 1.5	47.0 ± 4.0	46.2 ± 4.8
3	48.1 ± 3.9	45.3 ± 2.2	44.3 ± 2.2	44.4 ± 3.5	36.2 ± 3.4*
8	47.7 ± 4.2	45.8 ± 3.4	43.3 ± 2.5	41.6 ± 4.0*	39.6 ± 3.3*
12	46.4 ± 3.2	44.8 ± 2.2	42.7 ± 3.4	42.3 ± 3.8	40.3 ± 2.8*
17	47.1 ± 4.5	45.1 ± 2.7	41.9 ± 2.0*	41.5 ± 1.5*	36.5 ± 4.6*
22	47.2 ± 5.5	44.6 ± 3.4	42.8 ± 2.9	42.3 ± 1.6	41.5 ± 2.4*
26	46.5 ± 3.0	47.6 ± 2.6	43.9 ± 2.8	42.8 ± 1.9	38.8 ± 2.9*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 7
 TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

TEST WEEK	HEMATOLOGY MEASUREMENTS OF MALE DOGS HEMATOCRIT MEAN AND S.D. (%) TREATMENT GROUP (MG/KG/DAY)					
	0.0	0.5	2.0	8.0	32.0	
-3	42.4 ± 3.4	40.6 ± 1.8	42.4 ± 3.4	40.8 ± 2.7	43.2 ± 3.3	
-1	45.4 ± 6.0	41.3 ± 2.7	42.1 ± 2.8	41.6 ± 2.3	42.3 ± 2.2	
3	43.6 ± 2.5	43.3 ± 1.4	42.0 ± 2.3	40.3 ± 3.6	38.8 ± 2.5*	
8	44.4 ± 1.7	43.6 ± 1.7	41.5 ± 3.1	38.6 ± 2.1*	40.3 ± 3.4*	
12	44.9 ± 1.5	43.7 ± 1.0	42.3 ± 3.0	36.2 ± 1.2*	39.5 ± 2.5*	
17	45.2 ± 2.8	43.9 ± 1.4	43.9 ± 1.1	36.2 ± 2.4*	37.0 ± 3.7*	
22	44.5 ± 2.1	44.1 ± 2.0	43.6 ± 2.0	37.5 ± 2.0*	38.2 ± 5.1*	
26	44.3 ± 1.9	44.0 ± 1.3	42.8 ± 2.3	37.5 ± 3.5*	38.2 ± 4.2*	

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 6 (continued)

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

FOOD CONSUMPTION MEASUREMENTS OF FEMALE DOGS
MEAN AND S.D. (G)
TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
13	330. ± 94.	399. ± 3.	366. ± 83.	380. ± 49.	320. ± 127.
14	321. ± 88.	381. ± 46.	400. ± 0.	345. ± 66.	226. ± 173.
15	361. ± 82.	400. ± 0.	400. ± 0.	376. ± 39.	217. ± 148.*
16	362. ± 63.	400. ± 0.	389. ± 27.	385. ± 27.	236. ± 200.
17	368. ± 52.	400. ± 0.	384. ± 40.	377. ± 56.	204. ± 179.*
18	375. ± 51.	400. ± 0.	382. ± 43.	400. ± 0.	207. ± 209.*
19	378. ± 40.	378. ± 55.	392. ± 20.	400. ± 0.	303. ± 195.
20	353. ± 116.	395. ± 13.	388. ± 30.	400. ± 0.	194. ± 141.*
21	365. ± 61.	400. ± 0.	400. ± 0.	400. ± 0.	251. ± 159.*
22	400. ± 0.	400. ± 0.	364. ± 61.	400. ± 0.	369. ± 63.
23	400. ± 0.	400. ± 0.	334. ± 104.	392. ± 20.	362. ± 76.
24	319. ± 158.	400. ± 0.	359. ± 101.	394. ± 16.	367. ± 41.
25	400. ± 0.	376. ± 60.	387. ± 33.	384. ± 39.	381. ± 38.
26	333. ± 107.	352. ± 118.	400. ± 0.	400. ± 0.	337. ± 126.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 6

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

FOOD CONSUMPTION MEASUREMENTS OF FEMALE DOGS
 MEAN AND S.D. (G)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	359. ± 64.	399. ± 3.	372. ± 69.	366. ± 54.	349. ± 86.
-2	353. ± 74.	383. ± 41.	354. ± 74.	349. ± 73.	361. ± 62.
-1	370. ± 42.	394. ± 16.	354. ± 72.	369. ± 75.	354. ± 72.
1	373. ± 54.	384. ± 39.	342. ± 91.	198. ± 138.*	104. ± 147.*
2	363. ± 79.	400. ± 0.	352. ± 90.	330. ± 79.	229. ± 149.
3	386. ± 34.	355. ± 110.	369. ± 77.	330. ± 60.	266. ± 203.
4	328. ± 122.	366. ± 54.	377. ± 57.	182. ± 135.	292. ± 154.
5	359. ± 101.	376. ± 42.	365. ± 86.	380. ± 31.	291. ± 118.
6	375. ± 60.	386. ± 36.	356. ± 109.	325. ± 68.	313. ± 155.
7	368. ± 66.	389. ± 28.	392. ± 20.	385. ± 37.	346. ± 89.
8	379. ± 35.	392. ± 19.	396. ± 10.	375. ± 59.	345. ± 134.
9	384. ± 40.	400. ± 0.	400. ± 0.	395. ± 11.	400. ± 0.
10	393. ± 18.	400. ± 0.	398. ± 4.	346. ± 47.	304. ± 107.*
11	374. ± 63.	400. ± 0.	400. ± 0.	400. ± 0.	376. ± 54.
12	376. ± 44.	400. ± 0.	397. ± 8.	379. ± 52.	249. ± 181.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 5 (continued)

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

FOOD CONSUMPTION MEASUREMENTS OF MALE DOGS
 MEAN AND S.D. (G)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
13	400. ± 0.	400. ± 0.	400. ± 0.	365. ± 86.	295. ± 171.
14	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.	353. ± 88.
15	400. ± 0.	400. ± 0.	400. ± 0.	370. ± 46.	377. ± 56.
16	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.	348. ± 124.
17	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.	346. ± 100.
18	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.	361. ± 96.
19	400. ± 0.	400. ± 0.	400. ± 0.	357. ± 105.	393. ± 14.
20	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.	350. ± 124.
21	400. ± 0.	400. ± 0.	400. ± 0.	375. ± 61.	400. ± 0.
22	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.
23	400. ± 0.	400. ± 0.	400. ± 0.	364. ± 88.	400. ± 0.
24	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.
25	400. ± 0.	400. ± 0.	400. ± 0.	397. ± 7.	400. ± 0.
26	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.	385. ± 38.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 5

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

FOOD CONSUMPTION MEASUREMENTS OF MALE DOGS
 MEAN AND S.D. (G)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	400. ± 0.	392. ± 20.	400. ± 0.	378. ± 54.	388. ± 30.
-2	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.
-1	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.
1	400. ± 0.	400. ± 0.	289. ± 173.	381. ± 47.	180. ± 181.*
2	400. ± 0.	400. ± 0.	355. ± 70.	357. ± 106.	303. ± 117.
3	400. ± 0.	392. ± 20.	400. ± 0.	400. ± 0.	400. ± 0.
4	400. ± 0.	400. ± 0.	400. ± 0.	390. ± 24.	359. ± 48.*
5	400. ± 0.	400. ± 0.	382. ± 44.	400. ± 0.	399. ± 2.
6	400. ± 0.	400. ± 0.	377. ± 57.	400. ± 0.	342. ± 141.
7	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.	347. ± 130.
8	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.	354. ± 112.
9	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.	303. ± 163.
10	400. ± 0.	400. ± 0.	400. ± 0.	362. ± 94.	313. ± 160.
11	400. ± 0.	400. ± 0.	400. ± 0.	400. ± 0.	309. ± 152.
12	400. ± 0.	400. ± 0.	400. ± 0.	371. ± 70.	361. ± 65.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $p < 0.05$

Table 4 (continued)

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

BODY WEIGHT MEASUREMENTS OF FEMALE DOGS

MEAN AND S.D. (G)
 TREATMENT GROUP (MG/KG/DAY)
 CHANGE FROM WEEK -1

TEST WEEK	0.0	0.5	2.0	8.0	32.0
15	0.8 ± 0.7	0.8 ± 1.0	0.6 ± 1.3	0.7 ± 0.5	- 0.1 ± 1.2
16	0.9 ± 0.8	0.9 ± 1.0	0.7 ± 1.4	0.8 ± 0.6	- 0.1 ± 1.3
17	0.8 ± 0.7	0.7 ± 1.0	0.6 ± 1.3	0.7 ± 0.5	0.0 ± 0.6
18	0.9 ± 0.9	0.8 ± 1.0	0.6 ± 1.4	0.7 ± 0.6	- 0.5 ± 0.5
19	0.9 ± 0.9	0.8 ± 1.0	0.6 ± 1.4	0.7 ± 0.6	- 0.6 ± 0.6*
20	0.9 ± 0.9	0.7 ± 0.9	0.6 ± 1.5	0.8 ± 0.5	- 0.8 ± 0.8*
21	1.0 ± 1.0	0.8 ± 1.0	0.6 ± 1.6	0.8 ± 0.6	- 0.7 ± 0.8*
22	0.8 ± 1.0	0.5 ± 1.0	0.5 ± 1.8	0.6 ± 0.4	- 0.9 ± 1.0
23	0.9 ± 1.0	0.5 ± 1.1	0.4 ± 1.8	0.4 ± 0.4	- 0.7 ± 0.9
24	1.0 ± 1.1	0.5 ± 1.1	0.5 ± 1.7	0.5 ± 0.5	- 0.7 ± 0.6
25	1.0 ± 1.0	0.7 ± 1.2	0.4 ± 1.7	0.6 ± 0.4	- 0.4 ± 0.5
26	1.1 ± 1.1	0.6 ± 1.3	0.4 ± 1.6	0.6 ± 0.5	- 0.1 ± 0.4
T	1.2 ± 1.0	0.6 ± 1.2	0.6 ± 1.3	0.6 ± 0.6	0.0 ± 0.5

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 4
 TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

TEST WEEK	BODY WEIGHT MEASUREMENTS OF FEMALE DOGS MEAN AND S.D. (G) TREATMENT GROUP (MG/KG/DAY) CHANGE FROM WEEK -1									
	0.0	0.5	2.0	8.0	32.0	0.0	0.5	2.0	8.0	32.0
1	0.1 ± 0.1	0.1 ± 0.2	- 0.1 ± 0.3	- 0.1 ± 0.1	- 0.1 ± 0.4	0.1 ± 0.1	0.1 ± 0.2	- 0.1 ± 0.3	- 0.1 ± 0.1	- 0.1 ± 0.4
2	0.1 ± 0.2	0.1 ± 0.2	- 0.2 ± 0.4	- 0.3 ± 0.3	- 0.4 ± 0.6	0.1 ± 0.2	0.1 ± 0.2	- 0.2 ± 0.4	- 0.3 ± 0.3	- 0.4 ± 0.6
3	0.3 ± 0.2	0.3 ± 0.3	0.0 ± 0.4	- 0.2 ± 0.3	- 0.6 ± 1.0*	0.3 ± 0.3	0.3 ± 0.3	0.0 ± 0.4	- 0.2 ± 0.3	- 0.6 ± 1.0*
4	0.5 ± 0.4	0.3 ± 0.4	0.1 ± 0.6	0.1 ± 0.3	- 0.5 ± 0.9*	0.3 ± 0.4	0.3 ± 0.4	0.1 ± 0.6	0.1 ± 0.3	- 0.5 ± 0.9*
5	0.7 ± 0.4	0.6 ± 0.4	0.2 ± 0.6	0.1 ± 0.2	- 0.1 ± 0.7*	0.6 ± 0.4	0.6 ± 0.4	0.2 ± 0.6	0.1 ± 0.2	- 0.1 ± 0.7*
6	0.8 ± 0.4	0.6 ± 0.4	0.4 ± 0.6	0.2 ± 0.4	0.0 ± 0.6*	0.4 ± 0.4	0.4 ± 0.4	0.4 ± 0.6	0.2 ± 0.4	0.0 ± 0.6*
7	0.8 ± 0.4	0.7 ± 0.5	0.5 ± 0.8	0.3 ± 0.4	- 0.1 ± 1.1	0.4 ± 0.4	0.4 ± 0.4	0.5 ± 0.8	0.3 ± 0.4	- 0.1 ± 1.1
8	1.0 ± 0.4	0.9 ± 0.3	0.7 ± 0.7	0.3 ± 0.4	- 0.1 ± 1.3	0.6 ± 0.4	0.6 ± 0.4	0.7 ± 0.7	0.3 ± 0.4	- 0.1 ± 1.3
9	0.8 ± 0.6	0.5 ± 0.5	0.4 ± 1.0	0.1 ± 0.5	- 0.3 ± 1.3	0.8 ± 0.6	0.8 ± 0.6	0.4 ± 1.0	0.1 ± 0.5	- 0.3 ± 1.3
10	0.8 ± 0.6	0.7 ± 0.7	0.6 ± 1.1	0.3 ± 0.4	- 0.1 ± 1.3	0.6 ± 0.6	0.6 ± 0.6	0.6 ± 1.1	0.3 ± 0.4	- 0.1 ± 1.3
11	0.7 ± 0.8	0.8 ± 0.7	0.5 ± 1.1	0.4 ± 0.5	- 0.1 ± 1.6	0.7 ± 0.8	0.7 ± 0.8	0.5 ± 1.1	0.4 ± 0.5	- 0.1 ± 1.6
12	0.7 ± 0.7	0.7 ± 0.8	0.5 ± 1.3	0.4 ± 0.6	- 0.2 ± 1.8	0.7 ± 0.7	0.7 ± 0.7	0.5 ± 1.3	0.4 ± 0.6	- 0.2 ± 1.8
13	0.9 ± 0.6	1.0 ± 0.8	0.7 ± 1.2	0.4 ± 0.7	- 0.4 ± 1.9	0.9 ± 0.6	0.9 ± 0.6	0.7 ± 1.2	0.4 ± 0.7	- 0.4 ± 1.9
14	0.9 ± 0.8	0.8 ± 1.0	0.6 ± 1.4	0.6 ± 0.6	- 0.6 ± 2.1	0.9 ± 0.8	0.9 ± 0.8	0.6 ± 1.4	0.6 ± 0.6	- 0.6 ± 2.1

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 15

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS
 MCH MEAN AND S.D. (UUG)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	24.1 ± 1.3	23.3 ± 0.7	23.2 ± 1.4	24.2 ± 0.5	24.0 ± 0.7
-1	25.2 ± 3.4	23.4 ± 1.1	23.1 ± 1.3	23.9 ± 0.4	23.9 ± 0.8
3	23.7 ± 0.7	23.4 ± 1.0	23.1 ± 1.2	23.9 ± 0.4	24.1 ± 0.7
8	23.8 ± 0.7	23.2 ± 0.9	23.1 ± 1.0	23.9 ± 0.3	24.6 ± 0.7
12	23.8 ± 0.6	23.3 ± 0.7	23.3 ± 1.0	23.9 ± 0.8	24.4 ± 0.5
17	23.9 ± 0.7	23.4 ± 0.6	23.4 ± 1.2	24.0 ± 0.7	24.4 ± 0.4
22	24.0 ± 0.8	23.5 ± 0.7	23.5 ± 1.0	23.9 ± 0.8	24.6 ± 0.3
26	24.0 ± 0.7	23.4 ± 0.6	23.7 ± 1.0	23.9 ± 0.9	24.5 ± 0.6

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 16

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
 MCH MEAN AND S.D. (UUG)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	24.4 ± 0.8	23.9 ± 0.6	24.0 ± 0.9	24.0 ± 0.6	24.2 ± 0.4
-1	24.4 ± 0.8	24.0 ± 0.7	23.4 ± 0.7	23.4 ± 0.7	24.0 ± 0.6
3	24.4 ± 0.5	24.4 ± 0.3	23.9 ± 0.6	23.6 ± 0.4*	24.7 ± 0.4
8	24.4 ± 0.5	24.2 ± 0.5	24.1 ± 0.6	23.9 ± 0.5	24.2 ± 0.8
12	24.4 ± 0.5	24.1 ± 0.7	24.1 ± 0.4	24.0 ± 0.8	24.3 ± 0.6
17	24.5 ± 0.2	24.2 ± 0.7	24.0 ± 0.5	23.9 ± 0.6	23.9 ± 0.5
22	24.8 ± 0.6	24.3 ± 0.7	24.2 ± 0.2	24.3 ± 0.5	24.1 ± 0.8
26	24.6 ± 0.6	24.1 ± 0.6	24.0 ± 0.4	24.5 ± 0.5	24.1 ± 0.7

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 17

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS
 MCHC MEAN AND S.D. (GX)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	34.9 ± 0.5	34.7 ± 0.9	34.7 ± 0.3	34.5 ± 0.4	34.6 ± 0.7
-1	34.3 ± 0.3	34.4 ± 0.4	34.4 ± 0.4	34.2 ± 0.6	34.4 ± 0.2
3	34.5 ± 0.2	34.8 ± 0.2	34.4 ± 0.2	33.7 ± 0.7*	32.5 ± 0.6*
8	35.6 ± 0.5	35.7 ± 0.2	34.9 ± 0.5	34.1 ± 0.7*	33.1 ± 0.7*
12	35.5 ± 0.5	35.5 ± 0.5	34.9 ± 0.2	34.0 ± 0.6*	32.9 ± 0.9*
17	35.9 ± 0.3	35.9 ± 0.2	35.5 ± 0.3	34.6 ± 1.0*	33.3 ± 0.8*
22	36.4 ± 0.4	36.1 ± 0.5	35.8 ± 0.3	34.8 ± 0.7*	32.8 ± 0.7*
26	36.4 ± 0.3	35.9 ± 0.7	35.8 ± 0.5	34.5 ± 1.0*	32.7 ± 0.7*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 18

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
 MCHC MEAN AND S.D. (G%)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	35.2 ± 1.1	34.9 ± 0.3	34.8 ± 1.1	34.7 ± 0.6	35.0 ± 0.6
-1	35.0 ± 0.7	34.5 ± 0.4	34.3 ± 0.7	34.1 ± 0.9	34.6 ± 0.8
3	35.2 ± 0.5	35.0 ± 0.7	34.6 ± 0.2	33.8 ± 0.3*	32.1 ± 0.9*
8	35.8 ± 0.7	35.4 ± 0.2	34.9 ± 0.3	33.5 ± 1.1*	32.5 ± 0.8*
12	35.9 ± 0.5	35.6 ± 0.2	35.1 ± 0.4	32.2 ± 3.7*	32.5 ± 0.9*
17	36.1 ± 0.4	35.8 ± 0.5	35.5 ± 0.4	34.3 ± 0.5*	33.1 ± 0.8*
22	36.8 ± 0.5	36.2 ± 0.2	35.7 ± 0.2*	34.7 ± 0.3*	32.6 ± 1.1*
26	36.5 ± 0.6	36.2 ± 0.2	35.5 ± 0.4*	34.7 ± 0.3*	32.9 ± 1.2*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 19
 TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

TEST WEEK	HEMATOLOGY MEASUREMENTS OF MALE DOGS MEAN HEMOGLOBIN MEAN AND S. D. (GX) TREATMENT GROUP (MG/KG/DAY)					
	0.0	0.5	2.0	8.0	32.0	
-3	0.1 ± 0.1	0.2 ± 0.2	0.2 ± 0.1	0.1 ± 0.1	0.2 ± 0.2	
-1	0.1 ± 0.1	0.1 ± 0.1	0.1 ± 0.1	0.1 ± 0.1	0.1 ± 0.1	
3	0.2 ± 0.1	0.1 ± 0.1	0.2 ± 0.2	0.4 ± 0.2	1.2 ± 0.6*	
8	0.1 ± 0.0	0.1 ± 0.0	0.1 ± 0.0	0.3 ± 0.1	0.9 ± 0.3*	
12	0.1 ± 0.0	0.1 ± 0.1	0.1 ± 0.1	0.3 ± 0.2	1.2 ± 0.4*	
17	0.2 ± 0.2	0.2 ± 0.1	0.3 ± 0.1	0.3 ± 0.1	1.1 ± 0.4*	
22	0.2 ± 0.1	0.3 ± 0.1	0.3 ± 0.1	0.4 ± 0.2	1.0 ± 0.3*	
26	0.2 ± 0.1	0.3 ± 0.1	0.3 ± 0.1	0.3 ± 0.1	1.0 ± 0.4*	

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 20

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
 METHEMOGLOBIN MEAN AND S.D. (GX)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	0.2 ± 0.1	0.2 ± 0.1	0.2 ± 0.1	0.1 ± 0.1	0.2 ± 0.1
-1	0.1 ± 0.1	0.1 ± 0.1	0.1 ± 0.1	0.1 ± 0.1	0.2 ± 0.1
3	0.1 ± 0.1	0.1 ± 0.2	0.1 ± 0.2	0.5 ± 0.3*	1.0 ± 0.4*
8	0.1 ± 0.1	0.2 ± 0.1	0.3 ± 0.1	0.3 ± 0.1	0.9 ± 0.4*
12	0.1 ± 0.1	0.0 ± 0.1	0.2 ± 0.1	0.5 ± 0.2*	0.9 ± 0.4*
17	0.3 ± 0.2	0.2 ± 0.1	0.2 ± 0.1	0.4 ± 0.1	0.9 ± 0.1*
22	0.2 ± 0.1	0.3 ± 0.1	0.4 ± 0.3	0.6 ± 0.2*	1.0 ± 0.2*
26	0.2 ± 0.1	0.2 ± 0.1	0.3 ± 0.1	0.3 ± 0.2	0.8 ± 0.2*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 21

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS
 % METHEMOGLOBIN MEAN AND S.D.
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	0.68 ± 0.74	1.30 ± 1.33	1.28 ± 0.57	0.60 ± 0.54	1.13 ± 1.07
-1	0.95 ± 0.79	0.70 ± 0.73	0.92 ± 0.55	1.07 ± 0.72	0.93 ± 0.58
3	1.14 ± 0.87	0.90 ± 0.58	1.26 ± 1.25	3.23 ± 1.41	9.61 ± 5.04*
8	0.75 ± 0.28	0.76 ± 0.24	0.82 ± 0.29	2.33 ± 0.53	6.64 ± 2.42*
12	0.53 ± 0.26	0.43 ± 0.52	0.80 ± 0.51	2.64 ± 1.56*	9.50 ± 2.53*
17	1.49 ± 0.99	1.28 ± 0.40	1.85 ± 0.48	2.57 ± 1.24	9.34 ± 2.65*
22	1.35 ± 0.80	2.00 ± 0.53	2.05 ± 0.74	2.99 ± 1.39	8.14 ± 1.80*
26	1.49 ± 0.69	1.72 ± 0.70	2.11 ± 0.73	2.75 ± 0.48	8.09 ± 2.79*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 22

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
 % METHEMOGLOBIN MEAN AND S.D.
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	1.66 ± 0.97	1.30 ± 0.70	1.13 ± 0.80	0.99 ± 0.70	1.33 ± 0.48
-1	0.74 ± 0.62	1.00 ± 0.72	0.56 ± 0.78	0.82 ± 0.80	1.19 ± 0.66
3	0.46 ± 0.62	0.86 ± 1.31	0.90 ± 1.07	3.22 ± 1.77	9.17 ± 3.51*
8	0.80 ± 0.66	1.03 ± 0.47	1.79 ± 0.35	2.27 ± 1.00	6.89 ± 2.68*
12	0.38 ± 0.46	0.21 ± 0.33	1.28 ± 0.88	3.40 ± 1.32*	6.85 ± 2.85*
17	1.74 ± 0.89	1.48 ± 0.56	1.36 ± 0.74	2.85 ± 0.64	7.68 ± 1.62*
22	1.07 ± 0.81	1.93 ± 0.91	2.93 ± 2.42	4.14 ± 1.06*	7.34 ± 0.96*
26	1.22 ± 0.42	1.15 ± 0.71	1.75 ± 0.40	2.34 ± 1.16	6.68 ± 1.74*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 23

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 HEMATOLOGY MEASUREMENTS OF MALE DOGS
 WBC MEAN AND S.D. (10^3 /MM³)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	10.7 ± 4.3	10.4 ± 1.5	10.0 ± 1.5	10.2 ± 2.4	12.9 ± 2.5
-1	10.9 ± 5.4	9.9 ± 1.5	10.2 ± 1.6	9.8 ± 1.4	11.4 ± 1.6
3	11.7 ± 4.6	11.3 ± 1.1	12.0 ± 3.3	13.2 ± 2.0	18.1 ± 2.9*
8	11.7 ± 4.6	11.7 ± 1.6	12.4 ± 2.6	12.5 ± 3.3	19.8 ± 2.6*
12	12.3 ± 4.9	12.5 ± 2.0	10.8 ± 1.3	13.8 ± 3.0	18.1 ± 4.0*
17	11.9 ± 5.1	10.9 ± 1.3	11.1 ± 1.6	14.8 ± 10.8	16.7 ± 6.3
22	13.3 ± 6.6	12.4 ± 2.4	11.1 ± 2.4	12.3 ± 4.4	19.7 ± 3.6*
26	11.9 ± 4.7	12.4 ± 2.1	10.8 ± 1.9	13.4 ± 8.7	24.1 ± 3.8*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS

WBC MEAN AND S.D. (10^3 /MM³)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	9.6 ± 2.0	9.3 ± 1.3	10.3 ± 2.4	9.9 ± 2.7	9.5 ± 1.9
-1	9.6 ± 2.2	10.3 ± 1.9	10.5 ± 1.2	9.6 ± 1.7	9.5 ± 2.1
3	10.2 ± 1.4	9.7 ± 1.1	12.0 ± 2.5	13.0 ± 2.8	15.9 ± 4.2*
8	10.1 ± 1.9	11.6 ± 2.1	12.2 ± 1.6	12.5 ± 2.9	14.1 ± 2.1*
12	10.5 ± 2.5	10.9 ± 1.8	13.0 ± 1.4	12.7 ± 2.5	15.5 ± 3.7*
17	9.2 ± 2.4	13.0 ± 3.3	11.1 ± 1.7	11.7 ± 1.6	13.6 ± 3.3*
22	11.0 ± 2.7	10.2 ± 1.5	10.4 ± 1.6	13.6 ± 2.2	15.3 ± 4.3*
26	9.5 ± 1.3	11.3 ± 1.8	11.5 ± 2.0	13.8 ± 2.5*	16.8 ± 2.3*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, P < 0.05

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS
 IMMATURE NEUTROPHILS MEAN AND S.D. (%WBC'S)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	0.0 ± 0.0	0.0 ± 0.0	0.5 ± 0.8	0.0 ± 0.0	0.2 ± 0.4
-1	1.0 ± 2.0	0.7 ± 0.8	1.0 ± 0.9	0.3 ± 0.5	1.2 ± 0.8
3	0.5 ± 0.5	1.3 ± 1.5	0.8 ± 1.0	1.5 ± 1.4	1.7 ± 1.0
8	0.3 ± 0.5	0.3 ± 0.5	0.0 ± 0.0	0.5 ± 0.8	0.3 ± 0.5
12	0.3 ± 0.5	0.5 ± 0.8	0.3 ± 0.8	0.7 ± 0.8	1.3 ± 1.5
17	2.2 ± 1.9	2.4 ± 1.9	2.2 ± 1.9	2.5 ± 2.2	4.5 ± 5.9
22	1.7 ± 0.8	2.0 ± 1.3	1.0 ± 1.5	1.7 ± 1.2	5.5 ± 8.7
26	2.5 ± 1.9	2.8 ± 2.3	3.2 ± 0.8	3.0 ± 1.8	9.2 ± 11.7

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

STUDY OF TRINITROBENZENE (TNB) IN THE BEAGLE DOG
 HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
 IMMATURE NEUTROPHILS MEAN AND S.D. (%WBC'S)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	0.2 ± 0.4	0.8 ± 1.0	1.3 ± 1.4	1.0 ± 1.1	0.2 ± 0.4
-1	0.3 ± 0.5	1.2 ± 1.6	1.0 ± 1.3	0.2 ± 0.4	0.8 ± 1.6
3	0.2 ± 0.4	0.8 ± 1.0	0.7 ± 0.8	0.2 ± 0.4	1.3 ± 1.5
8	0.0 ± 0.0	0.5 ± 0.8	0.0 ± 0.0	0.2 ± 0.4	0.2 ± 0.4
12	0.5 ± 1.2	0.3 ± 0.5	0.3 ± 0.5	0.3 ± 0.5	0.5 ± 0.8
17	1.0 ± 1.7	3.3 ± 2.6	3.2 ± 2.6	1.3 ± 1.0	1.5 ± 1.9
22	0.7 ± 1.0	1.2 ± 1.2	1.7 ± 2.3	0.5 ± 0.5	2.0 ± 1.6
26	1.8 ± 0.8	2.7 ± 2.6	3.5 ± 0.8	3.0 ± 1.8	3.5 ± 3.5

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

HEMATOLOGY MEASUREMENTS OF MALE DOGS
MATURE NEUTROPHIL'S MEAN AND S.D. (%WBC'S)
TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	54. ± 12.	63. ± 9.	58. ± 5.	63. ± 8.	61. ± 9.
-1	61. ± 11.	64. ± 11.	54. ± 9.	62. ± 5.	63. ± 8.
3	60. ± 11.	61. ± 10.	71. ± 6.	75. ± 5.*	69. ± 4.
8	59. ± 9.	63. ± 6.	68. ± 13.	77. ± 8.*	76. ± 6.*
12	66. ± 9.	69. ± 8.	68. ± 7.	79. ± 7.	74. ± 10.
17	64. ± 5.	72. ± 7.	65. ± 8.	76. ± 11.	70. ± 13.
22	63. ± 10.	65. ± 7.	64. ± 6.	78. ± 9.	66. ± 17.
26	67. ± 7.	67. ± 8.	71. ± 9.	77. ± 7.	67. ± 18.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
MATURE NEUTROPHIL'S MEAN AND S.D. (%WBC'S)
TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	57. ± 5.	58. ± 10.	66. ± 7.	51. ± 7.	56. ± 10.
-1	65. ± 8.	64. ± 9.	60. ± 16.	51. ± 16.	60. ± 12.
3	61. ± 7.	63. ± 13.	68. ± 7.	67. ± 11.	76. ± 6.*
8	65. ± 8.	58. ± 9.	65. ± 9.	62. ± 12.	72. ± 8.
12	66. ± 12.	66. ± 13.	68. ± 7.	68. ± 9.	70. ± 14.
17	62. ± 12.	69. ± 10.	63. ± 9.	63. ± 7.	69. ± 7.
22	62. ± 15.	66. ± 12.	65. ± 7.	65. ± 11.	67. ± 8.
26	68. ± 8.	72. ± 8.	68. ± 6.	69. ± 10.	72. ± 8.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

HEMATOLOGICAL MEASUREMENTS OF TREATED MICE
 PLATELETS MEAN AND S.D. (10^3 /MM³)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	383. ± 120.	407. ± 110.	337. ± 111.	376. ± 124.	315. ± 59.
-1	313. ± 60.	340. ± 74.	362. ± 48.	311. ± 113.	363. ± 91.
3	253. ± 42.	300. ± 59.	362. ± 94.	445. ± 200.*	420. ± 79.*
8	320. ± 88.	321. ± 109.	432. ± 124.	503. ± 126.*	538. ± 125.*
12	343. ± 105.	365. ± 145.	390. ± 118.	565. ± 132.*	535. ± 89.*
17	318. ± 70.	321. ± 60.	420. ± 155.	483. ± 205.	476. ± 147.
22	283. ± 53.	370. ± 123.	373. ± 107.	522. ± 222.*	511. ± 106.*
26	430. ± 106.	397. ± 126.	407. ± 145.	522. ± 117.	569. ± 105.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS
PLATELETS MEAN AND S.D. (10³ /MM³)
TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	387. ± 180.	363. ± 83.	403. ± 84.	403. ± 95.	398. ± 32.
-1	408. ± 62.	369. ± 82.	408. ± 22.	375. ± 108.	359. ± 88.
3	312. ± 94.	293. ± 73.	412. ± 74.	469. ± 126.*	521. ± 114.*
8	321. ± 87.	322. ± 151.	423. ± 110.	564. ± 118.*	538. ± 129.*
12	344. ± 133.	373. ± 139.	448. ± 84.	608. ± 163.*	621. ± 194.*
17	279. ± 65.	321. ± 55.	322. ± 66.	473. ± 125.*	515. ± 157.*
22	301. ± 57.	325. ± 92.	403. ± 78.	615. ± 175.*	557. ± 89.*
26	332. ± 67.	316. ± 103.	458. ± 94.	557. ± 126.*	585. ± 254.*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, P < 0.05

STUDY OF TRINITROTOLUENE (INI) IN THE BEARLE DOG

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
RETICULOCYTES MEAN AND S.D. (%RBC'S)
TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	0.3 ± 0.2	0.4 ± 0.3	0.6 ± 0.3	0.5 ± 0.2	0.4 ± 0.2
-1	0.4 ± 0.3	0.4 ± 0.4	0.4 ± 0.1	0.2 ± 0.1	0.2 ± 0.2
3	1.0 ± 0.8	0.7 ± 0.4	0.8 ± 0.1	1.0 ± 0.4	3.7 ± 1.3*
8	0.3 ± 0.1	0.4 ± 0.3	0.7 ± 0.2	1.0 ± 0.4	2.3 ± 1.0*
12	0.3 ± 0.2	0.2 ± 0.2	0.5 ± 0.3	0.8 ± 0.3	1.7 ± 0.7*
17	0.1 ± 0.2	0.1 ± 0.1	0.3 ± 0.3	1.0 ± 0.5	2.7 ± 1.4*
22	0.2 ± 0.2	0.2 ± 0.3	0.5 ± 0.2	0.7 ± 0.3	3.7 ± 2.0*
26	0.4 ± 0.4	0.2 ± 0.2	0.3 ± 0.2	0.9 ± 0.4	2.5 ± 1.8*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS
 RETICULOCYTES MEAN AND S.D. (%RBC'S)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	0.4 ± 0.3	0.2 ± 0.2	0.3 ± 0.2	0.4 ± 0.3	0.4 ± 0.2
-1	0.3 ± 0.3	0.3 ± 0.3	0.5 ± 0.5	0.3 ± 0.2	0.6 ± 0.7
3	0.5 ± 0.3	0.6 ± 0.3	0.6 ± 0.2	1.0 ± 0.9	2.5 ± 0.6*
8	0.2 ± 0.1	0.2 ± 0.1	1.0 ± 0.6	1.2 ± 0.6	2.6 ± 1.5*
12	0.5 ± 0.3	0.3 ± 0.2	0.4 ± 0.3	0.5 ± 0.3	2.0 ± 0.9*
17	0.2 ± 0.2	0.2 ± 0.2	0.2 ± 0.1	1.2 ± 1.0*	3.3 ± 0.9*
22	0.3 ± 0.2	0.1 ± 0.1	0.4 ± 0.4	0.8 ± 0.6	4.3 ± 1.5*
26	0.3 ± 0.2	0.1 ± 0.1	0.4 ± 0.3	1.1 ± 1.6	3.2 ± 1.4*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, P < 0.05

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
 NRBC MEAN AND S.D. (XWBC'S)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	0.3 ± 0.8	0.0 ± 0.0	0.2 ± 0.4	0.3 ± 0.8	0.8 ± 0.8
-1	0.0 ± 0.0	0.0 ± 0.0	0.3 ± 0.8	0.3 ± 0.5	0.7 ± 1.0
3	1.2 ± 1.5	0.2 ± 0.4	0.5 ± 0.8	0.5 ± 0.8	2.3 ± 1.5
8	0.3 ± 0.5	0.2 ± 0.4	0.3 ± 0.5	0.8 ± 1.0	2.2 ± 1.2*
12	0.2 ± 0.4	0.0 ± 0.0	0.0 ± 0.0	0.2 ± 0.4	1.3 ± 2.0
17	0.3 ± 0.5	0.2 ± 0.4	0.7 ± 0.5	0.7 ± 0.8	1.3 ± 0.5*
22	0.0 ± 0.0	0.5 ± 0.8	0.3 ± 0.8	0.3 ± 0.8	1.8 ± 2.4*
26	0.3 ± 0.5	0.0 ± 0.0	0.2 ± 0.4	0.8 ± 1.6	2.3 ± 2.6

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, P < 0.05

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS
 NRBC MEAN AND S.D. (%WBC'S)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	0.2 ± 0.4	0.8 ± 1.3	0.0 ± 0.0	0.7 ± 1.0	0.2 ± 0.4
-1	0.7 ± 1.2	0.5 ± 0.8	0.3 ± 0.5	0.3 ± 0.8	1.5 ± 1.6
3	0.0 ± 0.0	0.5 ± 0.5	0.7 ± 0.8	0.7 ± 1.6	3.8 ± 2.3*
8	0.3 ± 0.5	0.2 ± 0.4	0.3 ± 0.8	0.8 ± 1.0	3.7 ± 2.3*
12	0.5 ± 1.2	0.0 ± 0.0	0.2 ± 0.4	1.0 ± 1.1	1.8 ± 1.9
17	0.3 ± 0.5	0.0 ± 0.0	0.3 ± 0.8	0.2 ± 0.4	4.2 ± 4.6*
22	0.2 ± 0.4	0.3 ± 0.8	0.0 ± 0.0	0.3 ± 0.8	4.2 ± 3.5*
26	0.0 ± 0.0	0.2 ± 0.4	0.3 ± 0.5	0.3 ± 0.8	2.5 ± 4.2

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 36

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
 BASOPHILS MEAN AND S.D. (XWBC'S)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0
-1	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0
3	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0
8	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0
12	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0
17	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.3 ± 0.8	0.0 ± 0.0
22	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0
26	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 35
 TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS
 BASOPHILS MEAN AND S.D. (%WBC'S)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0
-1	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0
3	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0
8	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0
12	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.2 ± 0.4	0.0 ± 0.0
17	0.0 ± 0.0	0.0 ± 0.0	0.3 ± 0.8	0.0 ± 0.0	0.0 ± 0.0
22	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0
26	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.2 ± 0.4	0.0 ± 0.0

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 34

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
 EOSINOPHILS MEAN AND S.D. (XWBC'S)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	4. ± 2.	4. ± 3.	5. ± 2.	5. ± 2.	5. ± 5.
-1	3. ± 3.	4. ± 3.	5. ± 4.	7. ± 6.	5. ± 6.
3	5. ± 4.	7. ± 5.	6. ± 5.	7. ± 6.	4. ± 3.
8	6. ± 4.	9. ± 6.	6. ± 6.	9. ± 6.	5. ± 2.
12	5. ± 6.	6. ± 4.	8. ± 5.	4. ± 2.	3. ± 2.
17	6. ± 7.	6. ± 5.	6. ± 3.	7. ± 2.	4. ± 1.
22	4. ± 4.	5. ± 1.	4. ± 4.	7. ± 4.	3. ± 1.
26	4. ± 5.	4. ± 2.	5. ± 2.	4. ± 2.	3. ± 2.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 33

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS
 EOSINOPHILS MEAN AND S.D. (%WBC'S)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	6. ± 5.	4. ± 2.	3. ± 3.	4. ± 2.	4. ± 3.
-1	6. ± 4.	5. ± 3.	7. ± 4.	8. ± 6.	5. ± 3.
3	8. ± 4.	10. ± 6.	3. ± 2.	4. ± 3.	4. ± 4.
8	11. ± 4.	8. ± 5.	4. ± 3.*	3. ± 2.*	2. ± 2.*
12	6. ± 2.	4. ± 2.	4. ± 3.	4. ± 3.	4. ± 4.
17	7. ± 5.	7. ± 2.	4. ± 2.	3. ± 3.	5. ± 4.
22	5. ± 3.	8. ± 3.	6. ± 3.	3. ± 3.	5. ± 2.
26	6. ± 4.	6. ± 4.	6. ± 4.	3. ± 3.	4. ± 3.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 32

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
 MONOCYTES MEAN AND S.D. (%WBC'S)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	1.0 ± 1.1	1.5 ± 2.1	1.0 ± 2.0	1.8 ± 2.3	2.0 ± 1.7
-1	0.8 ± 1.3	1.2 ± 2.0	1.3 ± 1.5	1.3 ± 0.8	2.0 ± 0.9
3	0.0 ± 0.0	0.3 ± 0.5	0.0 ± 0.0	0.0 ± 0.0	0.3 ± 0.8
8	0.0 ± 0.0	0.5 ± 0.8	0.0 ± 0.0	0.7 ± 1.6	0.2 ± 0.4
12	0.2 ± 0.4	0.0 ± 0.0	0.2 ± 0.4	0.0 ± 0.0	0.0 ± 0.0
17	1.0 ± 1.1	1.0 ± 1.1	1.3 ± 1.0	0.8 ± 1.0	0.0 ± 0.0
22	0.7 ± 1.2	0.3 ± 0.5	0.2 ± 0.4	0.5 ± 0.5	2.0 ± 1.8
26	0.3 ± 0.5	0.2 ± 0.4	0.3 ± 0.8	0.2 ± 0.4	0.8 ± 0.5

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 31

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS
 MONOCYTES MEAN AND S.D. (%WBC'S)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	1.8 ± 1.9	1.2 ± 1.3	4.0 ± 1.7	1.7 ± 1.5	1.2 ± 1.3
-1	0.2 ± 0.4	0.2 ± 0.4	0.8 ± 1.2	1.8 ± 1.7	1.3 ± 1.8
3	0.2 ± 0.4	0.5 ± 0.8	0.0 ± 0.0	0.8 ± 1.3	0.3 ± 0.8
8	1.2 ± 1.6	0.3 ± 0.5	0.0 ± 0.0	0.7 ± 0.8	0.0 ± 0.0
12	0.2 ± 0.4	0.2 ± 0.4	0.3 ± 0.8	0.2 ± 0.4	0.0 ± 0.0
17	0.5 ± 0.5	0.6 ± 0.9	0.3 ± 0.5	1.3 ± 2.0	1.2 ± 1.5
22	0.8 ± 1.0	0.7 ± 0.8	0.2 ± 0.4	0.3 ± 0.5	0.7 ± 1.2
26	0.0 ± 0.0	0.3 ± 0.8	0.2 ± 0.4	0.8 ± 1.3	0.2 ± 0.4

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 30

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
 LYMPHOCYTES MEAN AND S.D. (%WBC'S)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	38. ± 4.	35. ± 11.	27. ± 7.	41. ± 6.	36. ± 10.
-1	31. ± 6.	30. ± 8.	33. ± 15.	41. ± 11.	32. ± 10.
3	34. ± 8.	29. ± 9.	26. ± 7.	26. ± 8.	19. ± 4.*
8	30. ± 6.	32. ± 7.	29. ± 7.	29. ± 8.	23. ± 8.
12	28. ± 10.	29. ± 11.	24. ± 2.	28. ± 9.	27. ± 13.
17	30. ± 10.	21. ± 9.	26. ± 7.	28. ± 5.	27. ± 9.
22	33. ± 15.	28. ± 12.	29. ± 7.	27. ± 7.	26. ± 7.
26	25. ± 8.	21. ± 7.	23. ± 7.	24. ± 9.	24. ± 5.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 29

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS
 LYMPHOCYTES MEAN AND S.D. (%WBC'S)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	38. ± 8.	32. ± 10.	34. ± 5.	32. ± 8.	34. ± 7.
-1	32. ± 10.	31. ± 8.	38. ± 5.	29. ± 4.	29. ± 7.
3	32. ± 10.	28. ± 7.	26. ± 4.	18. ± 4.*	26. ± 5.
8	29. ± 8.	29. ± 5.	28. ± 10.	18. ± 7.	22. ± 7.
12	27. ± 9.	26. ± 6.	28. ± 8.	16. ± 5.	21. ± 9.
17	27. ± 7.	18. ± 6.	28. ± 9.	17. ± 8.	19. ± 9.
22	29. ± 11.	24. ± 9.	29. ± 6.	17. ± 6.	23. ± 10.
26	25. ± 8.	23. ± 6.	20. ± 5.	16. ± 4.	19. ± 9.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 43

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS
 PROTHROMBIN TIME MEAN AND S.D. (SEC)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	10.1 ±	11.1 ±	12.7 ±	8.4 ±	7.5 ±
-1	6.5 ±	8.3 ±	6.8 ±	6.5 ±	6.6 ±
3	6.4 ±	7.3 ±	6.6 ±	6.2 ±	6.3 ±
8	6.8 ±	7.9 ±	7.3 ±	6.8 ±	7.0 ±
12	6.8 ±	7.9 ±	7.1 ±	6.9 ±	7.2 ±
17	7.2 ±	8.2 ±	7.3 ±	7.0 ±	7.4 ±
22	7.0 ±	8.7 ±	7.4 ±	7.0 ±	7.4 ±
26	7.3 ±	8.1 ±	7.3 ±	7.6 ±	7.2 ±

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 44

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
 PROTHROMBIN TIME MEAN AND S.D. (SEC)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	9.3 ± 4.0	10.8 ± 9.6	13.8 ± 8.1	10.4 ± 4.9	7.3 ± 0.6
-1	6.5 ± 0.1	6.7 ± 0.7	9.0 ± 4.8	6.4 ± 0.3	6.6 ± 0.4
3	6.8 ± 0.7	6.5 ± 0.4	6.6 ± 0.5	6.2 ± 0.3	6.1 ± 0.3
8	7.1 ± 0.5	6.9 ± 0.4	7.1 ± 0.7	6.7 ± 0.3	7.8 ± 2.3
12	6.9 ± 0.1	7.3 ± 0.6	6.9 ± 0.3	6.8 ± 0.2	7.0 ± 0.6
17	7.3 ± 0.3	7.3 ± 0.8	7.4 ± 0.5	7.3 ± 0.2	7.1 ± 0.3
22	7.6 ± 0.7	7.1 ± 0.3	7.1 ± 0.3	7.2 ± 0.4	7.1 ± 0.3
26	7.1 ± 0.7	7.4 ± 0.5	7.4 ± 0.6	7.2 ± 0.6	6.9 ± 0.6

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 45

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF MALE DOGS
 CLOTTING TIME MEAN AND S.D. (MIN)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	5.3 ± 1.6	3.5 ± 1.5	5.6 ± 2.5	5.0 ± 1.9	3.9 ± 2.8
-1	4.8 ± 2.6	6.5 ± 4.5	4.7 ± 3.0	4.9 ± 2.2	3.8 ± 1.9
3	4.0 ± 1.9	3.3 ± 2.4	2.9 ± 0.9	4.4 ± 1.1	3.0 ± 1.1
8	3.8 ± 1.9	3.8 ± 1.9	3.4 ± 2.3	4.3 ± 2.2	3.1 ± 1.3
12	5.3 ± 1.8	3.6 ± 2.3	2.8 ± 1.3	4.4 ± 2.9	3.5 ± 2.4
17	6.3 ± 1.1	4.6 ± 2.0	2.9 ± 1.5*	5.5 ± 2.7	4.9 ± 1.2
22	5.9 ± 0.7	3.7 ± 1.9	3.1 ± 2.3*	4.2 ± 1.8	3.4 ± 1.4
26	3.3 ± 2.2	3.4 ± 1.4	2.7 ± 1.4	4.0 ± 1.4	2.7 ± 1.9

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 46

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

HEMATOLOGY MEASUREMENTS OF FEMALE DOGS
 CLOTTING TIME MEAN AND S.D. (MIN)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	3.7 ± 1.6	3.8 ± 1.1	4.2 ± 2.2	3.0 ± 1.2	3.5 ± 2.2
-1	3.9 ± 2.0	3.6 ± 2.0	3.5 ± 1.7	3.8 ± 2.0	3.2 ± 1.4
3	4.2 ± 2.5	2.4 ± 0.8	3.1 ± 1.0	3.7 ± 1.7	3.4 ± 1.7
8	4.0 ± 1.8	3.3 ± 1.6	2.9 ± 1.9	3.0 ± 0.8	2.8 ± 1.0
12	4.8 ± 2.9	3.3 ± 1.5	3.7 ± 2.4	2.8 ± 1.1	3.0 ± 1.3
17	2.7 ± 1.8	3.3 ± 2.1	2.3 ± 1.2	3.1 ± 2.1	2.1 ± 1.1
22	3.4 ± 1.8	3.2 ± 2.7	3.0 ± 2.4	3.8 ± 2.4	2.4 ± 1.3
26	2.7 ± 2.5	2.8 ± 1.3	2.9 ± 1.3	2.2 ± 1.1	4.6 ± 1.1

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 47

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY OF
TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

BONE MARROW MYELOID:ERYTHROID RATIOS

MEAN and S.D.

<u>Dose (mg/kg/day)</u>	<u>Males</u>	<u>Females</u>
0.0	3.30/ 2.30 ^a ±2.37/±0.92	1.52 ±0.62
0.5	2.00 ±1.11	1.42 ±0.55
2.0	2.30 ±0.92	1.84 ±0.63
8.0	2.17/ 1.20 ^{*b} ±2.38/±0.27	2.60/ 1.14 ^{*c} ±3.67/±0.95
32.0	0.87 [*] ±0.27	0.95 [*] ±0.44

* Combined mean for males and females significantly different from combined mean for control males and females, $p \leq 0.05$.

^a Test Animal No. 06 excluded. Its Myeloid:Erythroid ratio of 7.3 was greater than three standard deviations from the mean, and was considered an outlier.

^b Test Animal No. 42 excluded. Its Myeloid:Erythroid ratio of 7.0 was greater than three standard deviations from the mean, and was considered an outlier.

^c Test Animal No. 45 excluded. Its Myeloid:Erythroid ratio of 9.9 was greater than three standard deviations from the mean, and was considered an outlier.

Animal Nos. 55 and 58 (32 mg/kg/day females) were excluded from the analysis as they were not necropsied during routine sacrifice (Test Week 27).

Table 48

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 GLUCOSE MEAN AND S.D. (MG%)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	98. ± 7.	97. ± 11.	101. ± 11.	100. ± 17.	95. ± 12.
-1	98. ± 6.	98. ± 14.	88. ± 13.	91. ± 7.	89. ± 9.
3	89. ± 11.	92. ± 6.	81. ± 10.	87. ± 17.	77. ± 7.
8	93. ± 16.	72. ± 11.	75. ± 26.	75. ± 19.	64. ± 11.*
12	98. ± 5.	90. ± 6.	82. ± 8.*	76. ± 12.*	77. ± 8.*
17	103. ± 9.	99. ± 7.	90. ± 9.	92. ± 6.	89. ± 13.*
22	91. ± 8.	89. ± 8.	84. ± 5.	74. ± 7.*	67. ± 9.*
26	94. ± 8.	87. ± 9.	83. ± 9.	78. ± 16.	73. ± 10.*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 49

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 GLUCOSE MEAN AND S.D. (MG%)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	90. ± 11.	101. ± 10.	97. ± 15.	96. ± 9.	93. ± 15.
-1	92. ± 12.	90. ± 8.	91. ± 13.	87. ± 10.	90. ± 5.
3	84. ± 8.	86. ± 9.	79. ± 5.	78. ± 11.	60. ± 15.*
8	72. ± 18.	82. ± 19.	60. ± 13.	65. ± 20.	51. ± 16.
12	88. ± 11.	88. ± 10.	75. ± 3.*	74. ± 5.*	74. ± 11.*
17	92. ± 8.	97. ± 10.	83. ± 13.	91. ± 5.	81. ± 4.
22	82. ± 8.	85. ± 14.	71. ± 10.	78. ± 8.	68. ± 6.
26	88. ± 16.	89. ± 11.	81. ± 14.	84. ± 16.	67. ± 8.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 50

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 BUN MEAN AND S.D. (MG%)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	12. ± 1.	14. ± 3.	15. ± 3.	13. ± 2.	13. ± 3.
-1	12. ± 4.	13. ± 3.	14. ± 2.	14. ± 4.	13. ± 3.
3	15. ± 5.	15. ± 2.	15. ± 3.	15. ± 1.	12. ± 4.
8	15. ± 5.	15. ± 2.	16. ± 3.	17. ± 2.	14. ± 3.
12	14. ± 4.	15. ± 3.	16. ± 3.	18. ± 7.	14. ± 1.
17	19. ± 5.	16. ± 2.	17. ± 3.	16. ± 5.	16. ± 2.
22	16. ± 4.	15. ± 3.	18. ± 3.	18. ± 4.	13. ± 4.
26	14. ± 2.	17. ± 4.	16. ± 2.	17. ± 5.	13. ± 3.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 BUN MEAN AND S.D. (MG%)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	16. ± 2.	16. ± 4.	18. ± 3.	15. ± 4.	14. ± 3.
-1	16. ± 4.	17. ± 4.	17. ± 3.	16. ± 4.	15. ± 2.
3	18. ± 2.	18. ± 3.	17. ± 4.	15. ± 5.	12. ± 2.*
8	17. ± 3.	18. ± 4.	17. ± 3.	17. ± 3.	14. ± 3.
12	17. ± 4.	17. ± 3.	17. ± 3.	15. ± 3.	15. ± 6.
17	17. ± 3.	18. ± 5.	19. ± 3.	17. ± 4.	12. ± 2.
22	18. ± 4.	18. ± 3.	20. ± 6.	17. ± 4.	14. ± 6.
26	17. ± 4.	18. ± 4.	18. ± 5.	16. ± 4.	15. ± 5.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 SGPT MEAN AND S.D. (IU/L)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	15. ± 3.	17. ± 2.	17. ± 3.	18. ± 3.	16. ± 2.
-1	18. ± 3.	21. ± 3.	19. ± 1.	21. ± 4.	19. ± 4.
3	15. ± 2.	17. ± 4.	14. ± 1.	10. ± 2.*	4. ± 1.*
8	17. ± 3.	19. ± 3.	14. ± 1.	11. ± 2.*	6. ± 1.*
12	17. ± 2.	22. ± 7.	14. ± 2.	11. ± 3.*	6. ± 3.*
17	18. ± 3.	23. ± 4.*	16. ± 3.	8. ± 2.*	4. ± 2.*
22	18. ± 3.	23. ± 4.*	15. ± 2.	7. ± 1.*	6. ± 2.*
26	19. ± 6.	20. ± 4.	16. ± 7.	7. ± 2.*	3. ± 2.*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS SGPT MEAN AND S.D. (IU/L) TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	17. ± 4.	17. ± 5.	16. ± 2.	18. ± 6.	17. ± 3.
-1	21. ± 5.	20. ± 4.	17. ± 3.	22. ± 7.	19. ± 3.
3	19. ± 3.	17. ± 4.	13. ± 3.*	8. ± 2.*	5. ± 1.*
8	19. ± 3.	17. ± 3.	14. ± 2.*	11. ± 3.*	7. ± 3.*
12	20. ± 4.	17. ± 3.	14. ± 1.*	11. ± 3.*	7. ± 1.*
17	21. ± 5.	16. ± 5.	14. ± 4.	11. ± 4.*	6. ± 4.*
22	20. ± 6.	15. ± 4.	13. ± 3.*	9. ± 3.*	5. ± 2.*
26	22. ± 7.	16. ± 5.	12. ± 4.*	10. ± 3.*	5. ± 3.*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, P < 0.05

CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
SGOT MEAN AND S.D. (IU/L)
TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	19. ± 2.	16. ± 3.	18. ± 2.	20. ± 4.	22. ± 4.
-1	18. ± 2.	19. ± 4.	20. ± 3.	20. ± 5.	21. ± 4.
3	18. ± 4.	16. ± 3.	16. ± 2.	17. ± 4.	17. ± 4.
8	18. ± 3.	16. ± 3.	17. ± 5.	15. ± 1.	18. ± 3.
12	18. ± 2.	18. ± 6.	17. ± 3.	19. ± 6.	20. ± 4.
17	17. ± 2.	17. ± 2.	18. ± 5.	15. ± 3.	22. ± 5.*
22	18. ± 2.	18. ± 3.	20. ± 5.	19. ± 4.	30. ± 9.*
26	16. ± 6.	15. ± 4.	16. ± 3.	20. ± 5.	16. ± 4.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP? MEAN, $P < 0.05$

CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
SGOT MEAN AND S.D. (IU/L)
TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	21. ± 3.	21. ± 6.	17. ± 2.	19. ± 3.	20. ± 4.
-1	21. ± 3.	21. ± 3.	19. ± 3.	22. ± 9.	20. ± 2.
3	19. ± 3.	19. ± 4.	17. ± 4.	17. ± 2.	17. ± 4.
8	18. ± 3.	18. ± 4.	17. ± 2.	17. ± 2.	23. ± 19.
12	17. ± 3.	19. ± 5.	16. ± 3.	15. ± 1.	19. ± 3.
17	16. ± 2.	17. ± 5.	17. ± 3.	17. ± 2.	16. ± 3.
22	23. ± 6.	20. ± 3.	19. ± 2.	18. ± 3.	22. ± 7.
26	20. ± 5.	21. ± 9.	19. ± 6.	18. ± 4.	20. ± 3.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

ALKALINE PHOSPHATASE MEAN AND S.D. (IU/L)
TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	85. ± 18.	79. ± 19.	87. ± 17.	91. ± 23.	79. ± 11.
-1	89. ± 14.	79. ± 11.	85. ± 23.	93. ± 17.	75. ± 9.
3	64. ± 14.	54. ± 8.	55. ± 14.	62. ± 10.	48. ± 7.
8	58. ± 17.	47. ± 8.	52. ± 11.	67. ± 19.	49. ± 14.
12	55. ± 22.	43. ± 9.	48. ± 12.	67. ± 16.	54. ± 10.
17	57. ± 28.	53. ± 18.	52. ± 15.	69. ± 22.	65. ± 25.
22	61. ± 29.	49. ± 15.	50. ± 14.	72. ± 23.	85. ± 16.
26	56. ± 22.	48. ± 15.	51. ± 20.	58. ± 20.	82. ± 37.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

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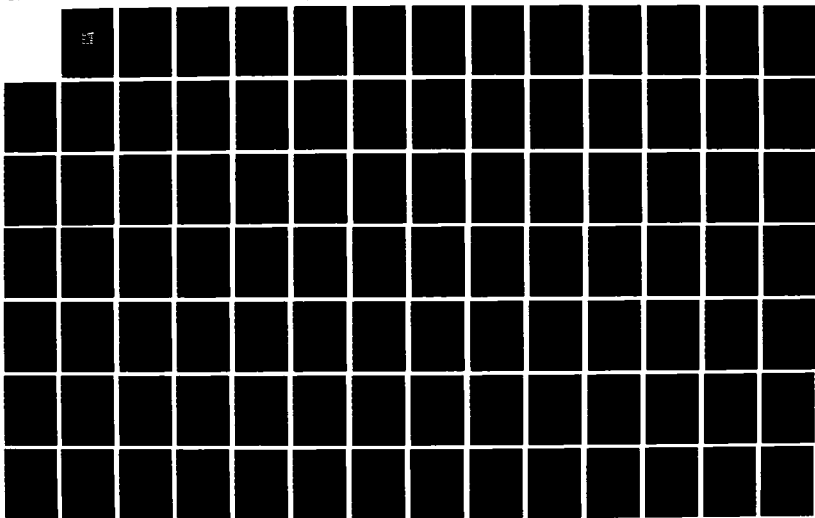
DETERMINATION OF THE CHRONIC MAMMALIAN TOXICOLOGICAL
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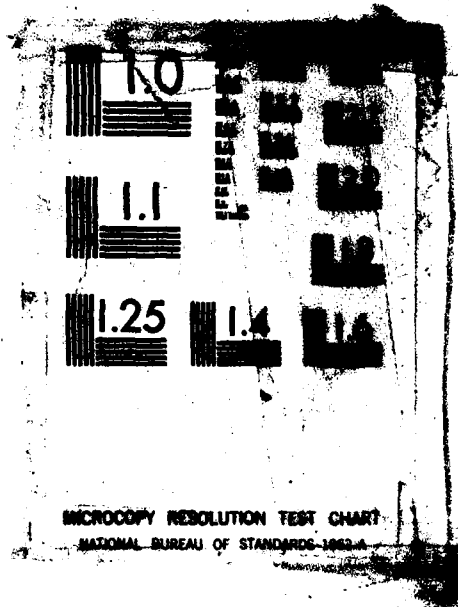


Table 57

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 ALKALINE PHOSPHATASE MEAN AND S.D. (IU/L)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	79. ± 17.	74. ± 19.	94. ± 26.	93. ± 23.	90. ± 28.
-1	79. ± 18.	76. ± 16.	82. ± 19.	85. ± 17.	88. ± 28.
3	53. ± 7.	54. ± 14.	57. ± 12.	54. ± 10.	50. ± 12.
8	46. ± 11.	51. ± 18.	57. ± 16.	62. ± 20.	54. ± 12.
12	41. ± 12.	53. ± 16.	57. ± 17.	59. ± 20.	46. ± 10.
17	42. ± 16.	55. ± 23.	63. ± 37.	57. ± 14.	38. ± 8.
22	45. ± 21.	64. ± 26.	64. ± 36.	58. ± 15.	95. ± 66.
26	39. ± 15.	53. ± 21.	64. ± 30.	51. ± 10.	70. ± 20.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 58

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 TOTAL PROTEIN MEAN AND S.D. (GX)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	6.8 ± 0.3	6.6 ± 0.4	6.6 ± 0.2	6.7 ± 0.3	6.7 ± 0.3
-1	6.6 ± 0.5	6.3 ± 0.4	6.3 ± 0.5	6.6 ± 0.4	6.0 ± 0.2
3	6.3 ± 0.4	6.4 ± 0.4	6.2 ± 0.2	6.4 ± 0.3	6.5 ± 0.4
8	6.5 ± 0.2	6.4 ± 0.3	6.5 ± 0.3	6.4 ± 0.3	7.0 ± 0.3*
12	6.3 ± 0.2	6.2 ± 0.3	6.4 ± 0.2	6.1 ± 0.2	6.3 ± 0.2
17	6.7 ± 0.3	6.5 ± 0.3	6.7 ± 0.4	6.4 ± 0.4	6.7 ± 0.4
22	6.8 ± 0.5	6.5 ± 0.3	6.8 ± 0.4	6.7 ± 0.5	6.8 ± 0.4
26	6.4 ± 0.2	6.4 ± 0.4	6.8 ± 0.7	6.0 ± 0.2	6.6 ± 0.5

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 59

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 TOTAL PROTEIN MEAN AND S.D. (GX)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	6.6 ± 0.2	6.8 ± 0.3	7.0 ± 0.6	6.6 ± 0.2	6.8 ± 0.2
-1	6.5 ± 0.4	6.6 ± 0.3	6.4 ± 0.4	6.4 ± 0.5	6.7 ± 0.2
3	6.4 ± 0.2	6.4 ± 0.2	6.3 ± 0.3	6.1 ± 0.3	6.3 ± 0.3
8	6.4 ± 0.2	6.6 ± 0.5	6.3 ± 0.2	6.3 ± 0.2	6.4 ± 0.3
12	6.2 ± 0.2	6.6 ± 0.3	6.1 ± 0.2	6.1 ± 0.3	6.0 ± 0.6
17	6.8 ± 0.4	6.9 ± 0.5	6.6 ± 0.4	6.5 ± 0.3	6.3 ± 0.5
22	6.5 ± 0.3	6.9 ± 0.4	6.7 ± 0.5	6.5 ± 0.4	6.3 ± 0.4
26	6.5 ± 0.4	6.7 ± 0.6	6.4 ± 0.5	6.3 ± 0.8	6.4 ± 0.3

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 60

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 ALBUMIN MEAN AND S.D. (GX)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	4.1 ± 0.2	3.9 ± 0.2	3.9 ± 0.2	3.9 ± 0.2	4.0 ± 0.3
-1	3.3 ± 0.2	3.2 ± 0.2	3.1 ± 0.3	3.2 ± 0.2	2.9 ± 0.1*
3	3.7 ± 0.1	3.6 ± 0.3	3.5 ± 0.2	3.7 ± 0.2	3.5 ± 0.2
8	3.7 ± 0.1	3.6 ± 0.3	3.4 ± 0.2*	3.4 ± 0.2*	3.5 ± 0.1
12	3.3 ± 0.1	3.2 ± 0.2	3.0 ± 0.2*	2.9 ± 0.2*	3.0 ± 0.2*
17	3.7 ± 0.2	3.5 ± 0.3	3.5 ± 0.1	3.3 ± 0.2*	3.2 ± 0.3*
22	3.8 ± 0.3	3.5 ± 0.2	3.6 ± 0.2	3.4 ± 0.3	3.3 ± 0.4*
26	3.5 ± 0.3	3.5 ± 0.2	3.6 ± 0.4	3.2 ± 0.1	3.0 ± 0.4*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN. P < 0.05

Table 61

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 ALBUMIN MEAN AND S.D. (GX)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	4.0 ± 0.1	4.2 ± 0.4	4.0 ± 0.1	4.2 ± 0.5	4.0 ± 0.1
-1	3.4 ± 0.2	3.2 ± 0.3	3.3 ± 0.3	3.3 ± 0.2	3.4 ± 0.3
3	3.8 ± 0.2	3.8 ± 0.2	3.6 ± 0.2	3.7 ± 0.2	3.6 ± 0.2
8	3.6 ± 0.1	3.6 ± 0.2	3.4 ± 0.3	3.5 ± 0.1	3.5 ± 0.3
12	3.2 ± 0.2	3.2 ± 0.3	3.0 ± 0.3	3.2 ± 0.1	3.1 ± 0.5
17	3.7 ± 0.2	3.6 ± 0.4	3.6 ± 0.3	3.7 ± 0.2	3.5 ± 0.5
22	3.7 ± 0.1	3.7 ± 0.4	3.5 ± 0.3	3.7 ± 0.2	3.5 ± 0.5
26	3.7 ± 0.2	3.6 ± 0.4	3.5 ± 0.4	3.6 ± 0.3	4 ± 0.4

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 62

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 GLOBULIN MEAN AND S.D. (GX)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	2.7 ± 0.5	2.7 ± 0.3	2.7 ± 0.3	2.8 ± 0.3	2.6 ± 0.2
-1	3.3 ± 0.4	3.1 ± 0.3	3.2 ± 0.3	3.4 ± 0.2	3.1 ± 0.1
3	2.5 ± 0.4	2.8 ± 0.2	2.7 ± 0.4	2.7 ± 0.2	3.0 ± 0.5
8	2.8 ± 0.2	2.8 ± 0.1	3.1 ± 0.4	3.0 ± 0.3	3.5 ± 0.2*
12	3.0 ± 0.3	3.0 ± 0.3	3.4 ± 0.3	3.2 ± 0.3	3.3 ± 0.2
17	3.1 ± 0.2	3.0 ± 0.2	3.2 ± 0.4	3.1 ± 0.4	3.5 ± 0.6
22	3.0 ± 0.5	3.0 ± 0.3	3.2 ± 0.3	3.2 ± 0.4	3.5 ± 0.6
26	2.8 ± 0.3	2.9 ± 0.4	3.3 ± 0.4	2.8 ± 0.1	3.5 ± 0.9*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN. $P < 0.05$

Table 63

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 GLOBULIN MEAN AND S.D. (GX)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	2.6 ± 0.3	2.6 ± 0.5	3.0 ± 0.5	2.4 ± 0.5	2.7 ± 0.2
-1	3.1 ± 0.3	3.3 ± 0.2	3.1 ± 0.3	3.1 ± 0.5	3.2 ± 0.1
3	2.6 ± 0.3	2.6 ± 0.2	2.7 ± 0.3	2.4 ± 0.3	2.6 ± 0.2
8	2.7 ± 0.2	3.0 ± 0.4	2.9 ± 0.3	2.8 ± 0.2	2.8 ± 0.2
12	3.0 ± 0.1	3.4 ± 0.3*	3.1 ± 0.3	2.9 ± 0.3	2.9 ± 0.3
17	3.1 ± 0.3	3.3 ± 0.5	3.1 ± 0.3	2.8 ± 0.1	2.9 ± 0.1
22	2.8 ± 0.3	3.2 ± 0.2	3.1 ± 0.3	2.8 ± 0.4	2.8 ± 0.2
26	2.8 ± 0.2	3.1 ± 0.5	2.9 ± 0.3	2.7 ± 0.6	3.0 ± 0.1

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 64

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 ALBUMIN/GLOBULIN MEAN AND S.D.
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	1.6 ± 0.5	1.4 ± 0.2	1.5 ± 0.3	1.4 ± 0.2	1.5 ± 0.2
-1	1.0 ± 0.1	1.0 ± 0.1	1.0 ± 0.1	0.9 ± 0.1	0.9 ± 0.1
3	1.5 ± 0.2	1.3 ± 0.1	1.4 ± 0.3	1.4 ± 0.1	1.2 ± 0.2*
8	1.3 ± 0.1	1.3 ± 0.1	1.1 ± 0.2*	1.1 ± 0.1*	1.0 ± 0.1*
12	1.1 ± 0.1	1.1 ± 0.1	0.9 ± 0.1*	0.9 ± 0.1*	0.9 ± 0.1*
17	1.2 ± 0.1	1.2 ± 0.1	1.1 ± 0.1	1.1 ± 0.2	0.9 ± 0.2*
22	1.3 ± 0.2	1.2 ± 0.2	1.2 ± 0.1	1.1 ± 0.2	1.0 ± 0.2*
26	1.3 ± 0.2	1.2 ± 0.2	1.1 ± 0.1	1.1 ± 0.0	0.9 ± 0.3*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 65

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 ALBUMIN/GLOBULIN MEAN AND S.D.
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	1.6 ± 0.2	1.6 ± 0.4	1.4 ± 0.2	1.9 ± 0.8	1.5 ± 0.2
-1	1.1 ± 0.1	0.9 ± 0.1	1.0 ± 0.2	1.1 ± 0.2	1.1 ± 0.1
3	1.5 ± 0.2	1.4 ± 0.2	1.4 ± 0.3	1.5 ± 0.2	1.4 ± 0.2
8	1.3 ± 0.1	1.2 ± 0.1	1.2 ± 0.2	1.3 ± 0.1	1.2 ± 0.1
12	1.1 ± 0.1	0.9 ± 0.1	1.0 ± 0.1	1.1 ± 0.1	1.1 ± 0.2
17	1.2 ± 0.1	1.1 ± 0.2	1.1 ± 0.2	1.3 ± 0.1	1.2 ± 0.2
22	1.3 ± 0.2	1.2 ± 0.2	1.1 ± 0.1	1.3 ± 0.2	1.2 ± 0.2
26	1.3 ± 0.1	1.2 ± 0.2	1.2 ± 0.2	1.4 ± 0.3	1.1 ± 0.1

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 66

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 TOTAL BILIRUBIN MEAN AND S.D. (MG/DL)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	0.5 ± 0.3	0.6 ± 0.4	0.4 ± 0.1	0.4 ± 0.2	0.5 ± 0.2
-1	0.2 ± 0.1	0.2 ± 0.1	0.2 ± 0.0	0.3 ± 0.1	0.2 ± 0.0
3	0.1 ± 0.1	0.2 ± 0.1	0.1 ± 0.1	0.3 ± 0.1*	0.5 ± 0.2*
8	0.1 ± 0.1	0.0 ± 0.1	0.1 ± 0.0	0.1 ± 0.1	0.3 ± 0.1*
12	0.1 ± 0.0	0.1 ± 0.1	0.1 ± 0.0	0.2 ± 0.1*	0.3 ± 0.1*
17	0.1 ± 0.1	0.0 ± 0.1	0.0 ± 0.1	0.1 ± 0.1	0.3 ± 0.1*
22	0.2 ± 0.1	0.2 ± 0.0	0.2 ± 0.1	0.3 ± 0.1	0.5 ± 0.2*
26	0.4 ± 0.3	0.3 ± 0.1	0.3 ± 0.1	0.5 ± 0.2	0.6 ± 0.2

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, P < 0.05

Table 67

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 TOTAL BILIRUBIN MEAN AND S.D. (MG/DL)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	0.5 ± 0.2	0.4 ± 0.3	0.7 ± 0.3	0.6 ± 0.3	0.5 ± 0.2
-1	0.2 ± 0.1	0.2 ± 0.0	0.2 ± 0.1	0.2 ± 0.1	0.3 ± 0.1
3	0.2 ± 0.1	0.1 ± 0.1	0.2 ± 0.0	0.3 ± 0.1	0.5 ± 0.2*
8	0.1 ± 0.1	0.1 ± 0.0	0.1 ± 0.0	0.2 ± 0.1	0.3 ± 0.1*
12	0.2 ± 0.1	0.1 ± 0.0	0.1 ± 0.1	0.2 ± 0.1	0.4 ± 0.1*
17	0.1 ± 0.1	0.1 ± 0.0	0.1 ± 0.1	0.2 ± 0.1	0.3 ± 0.1*
22	0.3 ± 0.1	0.2 ± 0.1	0.3 ± 0.1	0.3 ± 0.1	0.5 ± 0.2*
26	0.4 ± 0.2	0.3 ± 0.1	0.4 ± 0.1	0.5 ± 0.3	0.5 ± 0.2

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 DIRECT BILIRUBIN MEAN AND S.D. (MG/DL)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	0.6 ±	0.5 ±	0.3 ±	0.5 ±	0.4 ±
-1	0.3 ±	0.3 ±	0.2 ±	0.3 ±	0.2 ±
3	0.2 ±	0.2 ±	0.2 ±	0.3 ±	0.5 ±
8	0.2 ±	0.1 ±	0.2 ±	0.2 ±	0.2 ±
12	0.1 ±	0.2 ±	0.1 ±	0.3 ±	0.3 ±
17	0.1 ±	0.1 ±	0.1 ±	0.2 ±	0.3 ±
22	0.2 ±	0.2 ±	0.2 ±	0.3 ±	0.5 ±
26	0.5 ±	0.4 ±	0.4 ±	0.4 ±	0.5 ±

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, P < 0.05

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 CALCIUM MEAN AND S.D. (MG/DL)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	11.3 ± 0.7	10.8 ± 0.6	10.9 ± 1.1	10.6 ± 0.7	10.7 ± 0.8
-1	11.0 ± 0.4	10.7 ± 0.3	10.4 ± 0.9	10.5 ± 0.4	10.4 ± 0.3
3	11.4 ± 0.4	11.4 ± 0.5	11.0 ± 0.6	11.1 ± 0.8	11.1 ± 0.5
8	11.2 ± 0.5	11.0 ± 0.2	10.9 ± 0.7	10.8 ± 0.7	10.8 ± 0.3
12	11.4 ± 0.4	10.9 ± 0.7	11.2 ± 0.8	10.7 ± 1.2	11.3 ± 0.5
17	10.9 ± 0.2	10.7 ± 0.3	10.8 ± 0.3	10.6 ± 0.3	10.6 ± 0.4
22	11.8 ± 0.6	11.7 ± 0.3	12.1 ± 0.4	11.6 ± 0.5	11.8 ± 0.8
26	12.2 ± 0.4	10.5 ± 1.3	11.7 ± 1.4	11.3 ± 1.6	10.7 ± 1.1

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 81

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 POTASSIUM MEAN AND S.D. (MEQ/L)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	4.5 ± 0.5	4.3 ± 0.5	5.0 ± 0.0	4.7 ± 0.5	4.5 ± 0.5
-1	4.0 ± 0.0	4.5 ± 0.8	4.5 ± 0.5	4.2 ± 0.4	4.0 ± 0.0
3	4.0 ± 0.0	4.3 ± 0.5	4.2 ± 0.4	4.3 ± 0.5	4.8 ± 0.4*
8	4.0 ± 0.0	4.0 ± 0.0	4.2 ± 0.4	4.2 ± 0.4	4.8 ± 0.4*
12	4.2 ± 0.4	4.0 ± 0.0	4.2 ± 0.4	4.3 ± 0.5	5.0 ± 0.6*
17	4.2 ± 0.4	4.0 ± 0.0	4.5 ± 0.5	4.5 ± 0.5	4.5 ± 0.6
22	4.0 ± 0.0	4.0 ± 0.0	4.7 ± 0.5*	4.2 ± 0.4	4.8 ± 0.5*
26	4.0 ± 0.0	4.0 ± 0.0	4.3 ± 0.5	4.5 ± 0.5	4.5 ± 0.6

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 80

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 POTASSIUM MEAN AND S.D. (MEQ/L)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	4.5 ±	4.2 ±	4.7 ±	4.3 ±	4.3 ±
-1	4.4 ±	4.2 ±	4.0 ±	4.3 ±	4.2 ±
3	4.0 ±	4.5 ±	4.2 ±	4.5 ±	4.5 ±
8	4.0 ±	4.2 ±	4.0 ±	4.0 ±	4.0 ±
12	4.2 ±	4.3 ±	4.2 ±	4.3 ±	4.3 ±
17	4.2 ±	4.5 ±	4.2 ±	4.2 ±	4.7 ±
22	4.0 ±	4.0 ±	4.3 ±	4.5 ±	4.2 ±
26	4.0 ±	4.0 ±	4.0 ±	4.2 ±	4.0 ±

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 79

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 SODIUM MEAN AND S.D. (MEQ/L)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	151. ± 6.	149. ± 4.	154. ± 3.	149. ± 4.	149. ± 3.
-1	147. ± 4.	146. ± 4.	145. ± 2.	146. ± 4.	148. ± 1.
3	147. ± 1.	147. ± 2.	149. ± 6.	147. ± 2.	147. ± 2.
8	149. ± 2.	146. ± 2.	147. ± 2.	148. ± 1.	147. ± 2.
12	147. ± 3.	146. ± 1.	147. ± 2.	148. ± 2.	146. ± 2.
17	146. ± 1.	147. ± 3.	149. ± 3.	148. ± 2.	147. ± 1.
22	147. ± 2.	147. ± 3.	148. ± 3.	146. ± 3.	148. ± 2.
26	150. ± 3.	147. ± 3.	147. ± 2.	150. ± 8.	147. ± 2.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 78

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 SODIUM MEAN AND S.D. (MEQ/L)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	150. ± 3.	150. ± 3.	152. ± 6.	149. ± 5.	147. ± 3.
-1	148. ± 4.	147. ± 2.	145. ± 4.	147. ± 4.	145. ± 3.
3	148. ± 3.	148. ± 1.	147. ± 2.	147. ± 2.	149. ± 2.
8	147. ± 3.	149. ± 2.	148. ± 2.	148. ± 5.	147. ± 2.
12	147. ± 2.	147. ± 2.	146. ± 3.	146. ± 3.	147. ± 2.
17	148. ± 3.	147. ± 4.	147. ± 3.	146. ± 2.	146. ± 3.
22	147. ± 1.	147. ± 2.	147. ± 4.	146. ± 3.	146. ± 2.
26	147. ± 3.	147. ± 3.	147. ± 2.	146. ± 2.	145. ± 2.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 77

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 CREATINE PHOSPHOKINASE MEAN AND S.D. (IU/L)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	152. ± 35.	179. ± 105.	135. ± 31.	123. ± 32.	122. ± 47.
-1	143. ± 43.	146. ± 31.	115. ± 33.	131. ± 24.	124. ± 17.
3	92. ± 27.	103. ± 32.	77. ± 12.	91. ± 28.	95. ± 42.
8	70. ± 20.	85. ± 21.	63. ± 17.	59. ± 18.	55. ± 12.
12	64. ± 29.	79. ± 32.	52. ± 23.	55. ± 14.	48. ± 15.
17	51. ± 12.	59. ± 16.	46. ± 9.	40. ± 8.	34. ± 3.
22	79. ± 20.	78. ± 47.	76. ± 22.	56. ± 15.	57. ± 10.
26	61. ± 21.	73. ± 21.	59. ± 15.	46. ± 13.	44. ± 15.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 76

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 CREATINE PHOSPHOKINASE MEAN AND S.D. (IU/L)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	150. ± 37.	114. ± 30.	133. ± 20.	145. ± 62.	148. ± 31.
-1	135. ± 43.	137. ± 39.	106. ± 11.	167. ± 60.	135. ± 33.
3	106. ± 32.	101. ± 16.	77. ± 21.	86. ± 28.	75. ± 30.
8	96. ± 31.	72. ± 24.	61. ± 11.*	64. ± 18.	53. ± 19.*
12	84. ± 40.	73. ± 23.	48. ± 10.*	51. ± 9.	41. ± 6.*
17	57. ± 18.	55. ± 8.	54. ± 20.	35. ± 11.	45. ± 19.
22	66. ± 12.	65. ± 13.	69. ± 18.	74. ± 18.	91. ± 55.
26	52. ± 14.	57. ± 15.	61. ± 16.	69. ± 43.	37. ± 6.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 75

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 LACTIC DEHYDROGENASE MEAN AND S.D. (IU/L)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	89. ± 38.	57. ± 19.	102. ± 96.	82. ± 57.	78. ± 45.
-1	60. ± 19.	72. ± 21.	46. ± 18.	90. ± 71.	66. ± 30.
3	86. ± 37.	71. ± 17.	97. ± 23.	130. ± 69.	210. ± 127.*
8	78. ± 25.	53. ± 20.	80. ± 21.	64. ± 24.	130. ± 60.*
12	57. ± 29.	60. ± 47.	53. ± 30.	82. ± 34.	101. ± 68.
17	45. ± 11.	53. ± 19.	56. ± 17.	62. ± 23.	65. ± 12.
22	92. ± 37.	67. ± 48.	101. ± 41.	91. ± 25.	114. ± 15.
26	63. ± 57.	58. ± 19.	85. ± 26.	58. ± 23.	85. ± 36.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 74

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 LACTIC DEHYDROGENASE MEAN AND S.D. (IU/L)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	76. ± 13.	77. ± 48.	56. ± 22.	70. ± 36.	88. ± 47.
-1	71. ± 29.	48. ± 18.	54. ± 16.	77. ± 22.	63. ± 20.
3	86. ± 41.	57. ± 7.	69. ± 16.	80. ± 64.	159. ± 161.
8	43. ± 11.	64. ± 28.	61. ± 28.	61. ± 24.	72. ± 28.
12	44. ± 14.	52. ± 14.	51. ± 12.	64. ± 13.	64. ± 22.
17	44. ± 16.	47. ± 17.	38. ± 10.	43. ± 10.	68. ± 25.
22	60. ± 24.	51. ± 6.	71. ± 28.	98. ± 43.	124. ± 29.*
26	49. ± 30.	56. ± 23.	53. ± 24.	52. ± 18.	54. ± 20.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 73

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 TRIGLYCERIDES MEAN AND S.D. (MGX)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	70. ± 53.	45. ± 11.	59. ± 45.	49. ± 21.	45. ± 10.
-1	41. ± 4.	37. ± 10.	35. ± 8.	40. ± 15.	38. ± 15.
3	48. ± 12.	38. ± 13.	45. ± 11.	48. ± 7.	42. ± 3.
8	47. ± 9.	37. ± 12.	39. ± 10.	40. ± 6.	40. ± 17.
12	54. ± 16.	38. ± 8.	46. ± 13.	44. ± 12.	40. ± 20.
17	48. ± 20.	48. ± 14.	41. ± 12.	36. ± 11.	27. ± 6.
22	59. ± 15.	46. ± 9.	51. ± 13.	47. ± 11.	44. ± 7.
26	58. ± 24.	57. ± 17.	50. ± 7.	51. ± 19.	43. ± 8.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 72

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 TRIGLYCERIDES MEAN AND S.D. (MG%)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	43. ± 7.	44. ± 9.	44. ± 8.	47. ± 5.	53. ± 16.
-1	35. ± 7.	36. ± 4.	35. ± 7.	45. ± 12.	37. ± 8.
3	42. ± 9.	45. ± 4.	38. ± 8.	60. ± 10.*	53. ± 12.
8	39. ± 13.	36. ± 4.	38. ± 5.	41. ± 7.	45. ± 7.
12	40. ± 12.	48. ± 18.	40. ± 9.	60. ± 36.	35. ± 5.
17	46. ± 14.	36. ± 5.	46. ± 18.	40. ± 11.	32. ± 9.
22	42. ± 18.	45. ± 13.	46. ± 11.	56. ± 13.	43. ± 10.
26	45. ± 10.	51. ± 23.	47. ± 13.	60. ± 21.	50. ± 19.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 71

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 CHOLESTEROL MEAN AND S.D. (MG/DL)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	176. ± 57.	155. ± 14.	190. ± 26.	156. ± 36.	159. ± 43.
-1	177. ± 58.	140. ± 13.	161. ± 22.	151. ± 41.	163. ± 28.
3	177. ± 47.	159. ± 34.	166. ± 33.	149. ± 23.	157. ± 48.
8	175. ± 35.	157. ± 38.	178. ± 44.	163. ± 49.	159. ± 34.
12	186. ± 39.	179. ± 43.	199. ± 66.	174. ± 70.	139. ± 63.
17	226. ± 93.	193. ± 35.	207. ± 21.	178. ± 48.	143. ± 39.
22	208. ± 57.	200. ± 61.	206. ± 42.	170. ± 53.	152. ± 29.
26	247. ± 126.	266. ± 108.	245. ± 61.	201. ± 121.	223. ± 74.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 70

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 CHOLESTEROL MEAN AND S.D. (MG/DL)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	152. ± 17.	167. ± 33.	193. ± 50.	175. ± 22.	158. ± 39.
-1	156. ± 23.	171. ± 19.	166. ± 40.	169. ± 31.	159. ± 22.
3	155. ± 26.	164. ± 18.	164. ± 30.	179. ± 27.	171. ± 20.
8	149. ± 37.	154. ± 18.	161. ± 17.	194. ± 28.	171. ± 50.
12	149. ± 31.	155. ± 20.	182. ± 30.	192. ± 51.	147. ± 46.
17	157. ± 25.	165. ± 22.	186. ± 31.	200. ± 30.	157. ± 37.
22	151. ± 29.	149. ± 18.	179. ± 28.	195. ± 55.	159. ± 36.
26	191. ± 46.	209. ± 40.	201. ± 27.	221. ± 42.	219. ± 65.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 69

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 DIRECT BILIRUBIN MEAN AND S.D. (MG/DL)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	0.5 ± 0.3	0.4 ± 0.3	0.5 ± 0.2	0.5 ± 0.5	0.4 ± 0.3
-1	0.3 ± 0.2	0.2 ± 0.1	0.2 ± 0.1	0.3 ± 0.2	0.4 ± 0.2
3	0.3 ± 0.1	0.2 ± 0.0	0.3 ± 0.1	0.4 ± 0.2	0.4 ± 0.2
8	0.2 ± 0.1	0.2 ± 0.0	0.2 ± 0.1	0.2 ± 0.1	0.3 ± 0.1
12	0.2 ± 0.2	0.1 ± 0.1	0.2 ± 0.1	0.2 ± 0.1	0.5 ± 0.3*
17	0.2 ± 0.1	0.2 ± 0.0	0.2 ± 0.1	0.2 ± 0.1	0.3 ± 0.0
22	0.4 ± 0.2	0.3 ± 0.2	0.3 ± 0.2	0.3 ± 0.1	0.4 ± 0.2
26	0.6 ± 0.3	0.4 ± 0.1	0.6 ± 0.1	0.4 ± 0.2	0.5 ± 0.1

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 83

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 CALCIUM MEAN AND S.D. (MG/DL)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	11.2 ±	11.3 ± 1.3	10.9 ± 1.5	11.2 ± 0.6	10.9 ± 0.5
-1	11.1 ±	10.9 ± 0.5	10.5 ± 0.5	10.9 ± 0.5	11.0 ± 0.5
3	11.8 ±	11.5 ± 0.5	11.5 ± 0.3	11.0 ± 0.5	10.9 ± 0.8*
8	10.7 ±	11.0 ± 0.6	10.6 ± 0.4	10.9 ± 0.5	11.1 ± 0.3
12	10.9 ±	11.1 ± 0.6	10.6 ± 0.5	11.2 ± 0.5	11.4 ± 1.3
17	11.0 ±	10.8 ± 0.7	10.9 ± 0.3	11.0 ± 0.2	10.6 ± 0.5
22	12.2 ±	11.8 ± 0.3	12.0 ± 0.6	12.0 ± 0.3	11.9 ± 0.5
26	11.0 ±	11.2 ± 0.4	11.3 ± 1.3	12.4 ± 2.3	11.7 ± 1.7

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 84

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

CLINICAL CHEMISTRY MEASUREMENTS OF MALE DOGS
 CHLORIDE MEAN AND S.D. (MEQ/L)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	112. ± 4.	102. ± 6.*	110. ± 4.	108. ± 5.	105. ± 3.
-1	112. ± 16.	109. ± 2.	116. ± 19.	108. ± 3.	114. ± 9.
3	109. ± 3.	111. ± 3.	108. ± 3.	109. ± 3.	111. ± 3.
8	111. ± 2.	110. ± 2.	111. ± 1.	113. ± 3.	111. ± 2.
12	110. ± 2.	109. ± 5.	110. ± 3.	112. ± 3.	109. ± 2.
17	112. ± 3.	110. ± 3.	110. ± 3.	110. ± 2.	111. ± 2.
22	109. ± 6.	107. ± 5.	108. ± 3.	111. ± 3.	107. ± 5.
26	111. ± 2.	111. ± 2.	111. ± 1.	112. ± 2.	110. ± 3.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 85

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 CLINICAL CHEMISTRY MEASUREMENTS OF FEMALE DOGS
 CHLORIDE MEAN AND S.D. (MEQ/L)
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-3	111. ± 3.	116. ± 8.	105. ± 13.	112. ± 5.	105. ± 10.
-1	110. ± 5.	109. ± 4.	115. ± 11.	116. ± 15.	113. ± 9.
3	112. ± 2.	111. ± 1.	111. ± 1.	111. ± 2.	109. ± 1.*
8	112. ± 3.	111. ± 2.	110. ± 2.	112. ± 2.	110. ± 4.
12	108. ± 4.	108. ± 2.	108. ± 3.	110. ± 2.	111. ± 2.
17	110. ± 2.	111. ± 2.	108. ± 3.	110. ± 3.	112. ± 2.
22	109. ± 5.	109. ± 3.	110. ± 6.	107. ± 3.	108. ± 2.
26	113. ± 4.	111. ± 1.	111. ± 2.	114. ± 7.	109. ± 1.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

TABLE 86
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
URINARY APPEARANCE

DOSE LEVEL	PRETEST PERIOD		TEST WEEK						
	-3	-1	3	8	12	17	22	26	
0.0 MG/KG/DAY									
01M	1	1	1	1	1	2	3	3	
02M	1	1	1	1	1	2	1	2	
03M	1	1	1	1	1	3	1	2	
04M	1	1	1	1	1	3	3	3	
05M	1	1	1	3	1	3	3	3	
06M	1	1	1	1	1	2	1	3	
07F	1	1	1	1	1	3	1	2	
08F	1	1	1	1	1,10	3	1	3	
09F	1	1	1	1	1	2	1	2	
10F	1	1	1	1	1	3	1	3	
11F	1	1	1	3	1	3	1	2	
12F	1	1	1	1	1	3	1	3	
0.5 MG/KG/DAY									
13M	1	1	1	1	1	3	1	2	
14M	1	1	1	1	1	2	1	2	
15M	1	1	1	3,11	1	3	1	-	
16M	1	1	3	1	1	3	1	3	
17M	1	3	3	3	3	3	3	3	
18M	1	1	1	3	1	1	1	3	
19F	1	1	3	1	1	3	3	3	
20F	1	1	3	1	1	2	3	3	
21F	1	1	1	1	1	3	3	3	
22F	1	1	1	1	1	3	3	3	
23F	1	1	1	1	1	3	1	3	
24F	3	1	1	1	1	3	1	3	
2.0 MG/KG/DAY									
25M	1	1	1	1	1	2	3	3	
26M	1	1	1	1	1	3	3	3	
27M	1	1	1	1	1	3	3	3	
28M	1	1	1	1	3	3	1	2	
29M	1	1	3	3	3	3	3	2	
30M	1	1	1	3	1	3	1	2	
31F	1	1	1	1	1	3	1	-	
32F	1	1	1	1	1	3	1	3	
33F	1	1	1	1	1	3	3	3	
34F	1	1	1	3,9	1	1	1	2	
35F	1	1	3	1	1	2	1	2	
36F	1	1	1	1	1	3	1	2	
8.0 MG/KG/DAY									
37M	1	1	1	3	3	1	3	3	
38M	1	1	3	3	3	3	3	3	
39M	1	3	1	3	1	3	3	2	
40M	1	1	2,4	2,6	3	6	3	3,5	
41M	1	1	1	3	1	3	3	3	
42M	1	3	3	1	1	1	3	3,5	
43F	1	1	1	1	3	2,6	1	3	
44F	1	1	3	1	3	1	3	3,5	
45F	1	1	1	3,10	1	6	1	3	
46F	1	1	2,5	1	1	6	2,6	2	
47F	1	1	1	3	3	1	3	3	
48F	1	1	1	1	1	1	1	3	
32 MG/KG/DAY									
49M	3	1	3,4	1	2,5	7	-	2	
50M	3	1	2,7	2,5	2,7	2,6	3,6	3,5	
51M	1	1	1	2,5	2,5	1	-	3,5	
52M	1	1	2,6	3	2,5	6	3,6	3,5	
53M	1	3	3,4	2,6	2,5	2,6	2,6	3,5	
54M	1	1	2,6	8	2,5	1	1	2,5	
55F	1	1	2,5	2,5	2,7	a---	---	---	
56F	1	1	1	1	2,6	6	2,6	2	
57F	1	1	2,5	2,5	2,5	2,5	3,7	2,5	
58F	1	1	2,7	3	2,5	b---	---	---	
59F	1	1	3,4	2,6	2,5	2,6	1	3,5	
60F	1	1	3,5	2,6	2,5	7	1	3,5	

KEY: 1 = Normal 7 = Dark Brown
2 = Clear 8 = Orange-Brown
3 = Cloudy 9 = Light Precipitate
4 = Amber 10 = Moderate Precipitate
5 = Brown 11 = Heavy Precipitate
6 = Light Brown - = Urine color precludes test results
--- = Animal no longer alive

^a animal sacrificed during test week 14
^b animal died during test week 16

TABLE 87
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
URINARY SPECIFIC GRAVITY

DOSE LEVEL	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	1.026	1.009	1.014	1.009	1.007	1.010	1.008	1.004
02M	1.037	1.057	1.020	1.035	1.021	1.050	1.018	1.021
03M	1.004	1.030	1.034	1.016	1.016	1.021	1.033	1.038
04M	1.053	1.035	1.034	1.047	1.047	1.045	1.040	1.025
05M	1.019	1.047	1.018	1.009	1.010	1.013	1.009	1.004
06M	1.033	1.033	1.033	1.038	1.021	1.042	1.041	1.021
07F	1.019	1.028	1.039	1.006	1.010	1.009	1.028	1.039
08F	1.026	1.008	1.021	1.014	1.001	1.012	1.010	1.008
09F	1.008	1.042	1.029	1.029	1.026	1.009	1.030	1.039
10F	1.042	1.052	1.052	1.034	1.025	1.035	1.033	1.030
11F	1.013	1.028	1.022	1.022	1.023	1.021	1.016	1.018
12F	1.055	1.022	1.048	1.012	1.041	1.014	1.009	1.016
0.5 MG/KG/DAY								
13M	1.021	1.021	1.026	1.020	1.016	1.012	1.022	1.016
14M	1.026	1.006	1.015	1.006	1.001	1.005	1.015	1.009
15M	1.012	1.047	1.022	1.041	1.020	1.014	1.007	-
16M	1.008	1.012	1.019	1.018	1.015	1.019	1.009	1.018
17M	1.038	1.023	1.025	1.026	1.028	1.028	1.033	1.029
18M	1.025	1.007	1.004	1.015	1.014	1.033	1.012	1.005
19F	1.062	1.040	1.006	1.051	1.035	1.038	1.044	1.012
20F	1.042	1.037	1.035	1.010	1.010	1.009	1.023	1.007
21F	1.027	1.047	1.038	1.033	1.040	1.033	1.052	1.022
22F	1.014	1.037	1.023	1.014	1.012	1.015	1.010	1.006
23F	1.012	1.028	1.025	1.018	1.028	1.016	1.015	1.023
24F	1.029	1.030	1.026	1.016	1.021	1.018	1.019	1.009
2.0 MG/KG/DAY								
25M	1.007	1.037	1.019	1.033	1.021	1.021	1.029	1.015
26M	1.022	1.016	1.014	1.028	1.016	1.022	1.014	1.009
27M	1.033	1.030	1.016	1.037	1.016	1.030	1.034	1.016
28M	1.036	1.050	1.028	1.027	1.019	1.035	1.039	1.032
29M	1.035	1.035	1.020	1.023	1.028	1.028	1.020	1.039
30M	1.050	1.050	1.052	1.039	1.032	1.054	1.049	1.066
31F	1.018	1.041	1.026	1.028	1.063	1.081	1.071	-
32F	1.043	1.048	1.040	1.037	1.032	1.038	1.020	1.025
33F	1.023	1.023	1.029	1.016	1.028	1.030	1.022	1.014
34F	1.049	1.044	1.041	1.045	1.025	1.038	1.026	1.061
35F	1.023	1.005	1.041	1.023	1.042	1.047	1.047	1.052
36F	1.040	1.047	1.025	1.028	1.021	1.042	1.027	1.025
8.0 MG/KG/DAY								
37M	1.004	1.014	1.019	1.014	1.027	1.026	1.021	1.023
38M	1.029	1.033	1.034	1.023	1.023	1.028	1.019	1.007
39M	1.026	1.045	1.015	1.026	1.023	1.026	1.014	1.004
40M	1.038	1.028	1.028	1.045	1.047	1.062	1.030	1.064
41M	1.028	1.030	1.023	1.032	1.026	1.021	1.020	1.020
42M	1.023	1.041	1.047	1.028	1.038	1.037	1.020	1.027
43F	1.033	1.060	1.005	1.013	1.021	1.033	1.033	1.006
44F	1.038	1.039	1.015	1.013	1.009	1.014	1.006	1.019
45F	1.015	1.034	1.033	1.025	1.019	1.038	1.033	1.026
46F	1.018	1.015	1.020	1.029	1.023	1.040	1.037	1.030
47F	1.026	1.007	1.018	1.023	1.016	1.016	1.016	1.021
48F	1.030	1.049	1.010	1.009	1.014	1.037	1.012	1.015
32 MG/KG/DAY								
49M	1.029	1.053	1.022	1.007	1.040	1.052	-	1.002
50M	1.010	1.026	1.047	1.038	1.029	1.030	1.035	1.038
51M	1.028	1.038	1.018	1.042	1.045	1.048	-	1.040
52M	1.014	1.032	1.016	1.012	1.033	1.030	1.020	1.039
53M	1.014	1.033	1.043	1.037	1.026	1.033	1.026	1.023
54M	1.016	1.035	1.026	1.026	1.028	1.010	1.004	1.021
55F	1.029	1.014	1.016	1.020	1.019	a	---	---
56F	1.016	1.045	1.020	1.006	1.028	1.014	1.023	1.012
57F	1.033	1.033	1.041	1.009	1.020	1.041	1.033	1.035
58F	1.019	1.055	1.040	1.006	1.038	b	---	---
59F	1.028	1.030	1.033	1.018	1.019	1.038	1.021	1.023
60F	1.052	1.082	1.055	1.035	1.052	1.054	1.019	1.030

SCALE: - = Urine color precludes test results
--- = animal no longer alive

^a animal sacrificed during test week 14

^b animal died during test week 16

TABLE 88
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
URINARY BLOOD

DOSE LEVEL	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	0	0	0	0	0	0	0	HT
02M	0	0	0	0	0	0	0	0
03M	0	0	0	0	0	0	0	0
04M	0	0	0	0	0	0	0	HT
05M	0	0	0	1	0	0	0	2
06M	0	0	0	0	0	0	0	HT
07F	0	0	0	0	0	0	0	0
08F	0	0	0	1	HT	0	0	HT
09F	0	0	0	0	0	NHT	0	0
10F	0	0	0	0	0	2	0	HT
11F	0	0	0	0	0	1	0	1
12F	0	0	0	0	0	NHT	0	HT
0.5 MG/KG/DAY								
13M	0	0	0	0	0	HT	0	0
14M	0	0	0	0	0	0	0	HT
15M	0	0	0	0	0	0	HT	—
16M	0	0	0	0	0	0	0	NHT
17M	0	0	0	0	0	HT	0	HT
18M	0	0	0	0	HT	0	0	HT
19F	0	0	1	0	0	0	0	HT
20F	0	0	0	1	0	NHT	0	HT
21F	0	0	0	0	0	1	1	3
22F	0	0	0	0	1	NHT	0	HT
23F	0	0	0	0	0	NHT	0	HT
24F	0	0	0	0	0	NHT	0	2
2.0 MG/KG/DAY								
25M	0	0	0	0	0	0	HT	HT
26M	0	0	0	0	0	NHT	1	HT
27M	0	0	0	0	HT	NHT	0	HT
28M	0	1	0	0	0	0	0	0
29M	0	0	0	0	NHT	2	0	0
30M	0	0	0	1	0	0	0	0
31F	0	0	1	0	0	0	0	—
32F	0	0	0	0	0	NHT	0	2
33F	0	0	0	0	0	0	0	HT
34F	0	0	0	1	0	0	0	0
35F	0	2	0	0	0	0	0	NHT
36F	0	0	0	0	3	0	0	0
8.0 MG/KG/DAY								
37M	0	0	0	0	0	0	HT	1
38M	0	0	0	0	0	0	HT	HT
39M	0	0	0	0	0	0	2	NHT
40M	0	0	0	0	HT	NHT	HT	HT
41M	0	0	0	0	0	HT	1	NHT
42M	0	0	0	0	0	0	0	0
43F	0	0	0	0	HT	0	0	HT
44F	0	0	0	1	1	0	0	HT
45F	0	0	0	0	0	2	0	0
46F	0	0	0	0	HT	0	0	0
47F	0	1	0	0	0	0	0	3
48F	0	0	0	0	HT	1	0	HT
32 MG/KG/DAY								
49M	2	0	0	0	—	—	—	HT
50M	0	0	0	0	—	0	0	2
51M	0	0	0	0	—	0	—	0
52M	0	0	0	1	—	0	1	0
53M	0	0	0	0	0	HT	0	HT
54M	0	0	0	2	—	HT	0	2
55F	0	0	0	1	—	a	—	—
56F	0	0	0	1	HT	HT	1	0
57F	0	0	1	1	—	3	—	HT
58F	0	0	1	1	—	b	—	—
59F	0	0	0	0	0	0	0	HT
60F	0	0	1	0	0	0	0	1

^a animal sacrificed during test week 14

^b animal died during test week 16

SCALE: 0 = Negative
1 = Trace
2 = Moderate
3 = Many

4 = Very Many, severe
NHT = Non-Hemolyzed Trace
HT = Hemolyzed Trace
— = Urine color precludes test results
--- = Animal no longer alive

TABLE 89
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
URINARY PROTEIN

DOSE LEVEL	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	1	0	1	1	0	1	1	1
02M	1	1	1	1	1	1	1	1
03M	0	1	1	1	1	2	1	1
04M	0	1	1	1	1	2	1	1
05M	1	1	1	1	1	1	1	1
06M	1	1	1	1	1	1	1	2
07F	1	1	1	1	0	0	1	2
08F	1	0	0	1	1	1	1	1
09F	1	1	0	1	1	1	1	1
10F	1	1	1	1	1	2	1	1
11F	0	1	0	2	1	4	1	1
12F	1	1	1	0	1	1	0	1
0.5 MG/KG/DAY								
13M	0	1	1	1	1	1	1	1
14M	1	0	0	0	1	0	1	1
15M	0	1	1	2	1	1	1	-
16M	0	1	1	1	0	1	1	1
17M	1	1	1	1	1	1	1	2
18M	1	1	1	1	1	1	1	1
19F	1	1	1	1	1	1	1	1
20F	1	1	1	1	0	1	1	1
21F	1	1	1	1	1	1	1	3
22F	1	1	1	1	1	1	1	1
23F	1	1	1	1	0	1	1	1
24F	1	0	0	1	0	1	1	1
2.0 MG/KG/DAY								
25M	1	1	1	1	1	1	1	2
26M	1	1	1	1	1	3	1	1
27M	1	1	1	1	1	1	1	2
28M	1	1	1	1	1	2	1	1
29M	1	0	1	1	1	2	1	1
30M	1	1	1	1	1	1	1	1
31F	1	1	1	1	1	2	2	-
32F	1	1	1	1	1	2	1	2
33F	1	1	1	1	1	1	1	0
34F	1	1	1	2	0	1	1	2
35F	1	1	1	1	1	1	1	2
36F	1	1	0	1	1	1	1	1
8.0 MG/KG/DAY								
37M	0	1	1	1	1	1	1	2
38M	1	1	1	1	1	1	1	1
39M	1	1	1	1	1	4	1	1
40M	1	1	1	1	1	2	1	3
41M	1	1	1	1	1	1	1	1
42M	1	1	1	1	1	1	1	2
43F	1	0	1	1	1	1	1	1
44F	1	1	1	1	1	1	1	1
45F	0	1	1	1	1	3	1	2
46F	1	1	1	1	1	1	1	1
47F	0	0	0	1	1	1	2	3
48F	1	1	1	1	1	1	1	2
32 MG/KG/DAY								
49M	1	1	1	0	1	-	-	1
50M	1	2	1	1	1	1	1	3
51M	1	1	1	1	1	1	-	2
52M	1	1	1	1	1	1	1	2
53M	0	1	1	1	1	1	2	2
54M	1	1	1	1	1	1	1	2
55F	1	1	1	1	1	a	---	---
56F	0	1	1	1	1	1	1	1
57F	1	1	1	1	1	2	-	1
58F	1	1	1	2	1	b	---	---
59F	1	1	1	1	1	1	1	2
60F	1	1	1	1	1	-	1	3

^a animal sacrificed during test week 14

^b animal died during test week 16

SCALE: 0 = Negative
1 = Trace
2 = Moderate

3 = Many
4 = Very Many, Severe
- = Urine color precludes test results
--- = Animal no longer alive

TABLE 90
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
URINARY CASTS

DOSE LEVEL	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	0	0	0	0	0	0	0	0
02M	0	0	0	0	0	0	0	0
03M	0	0	0	0	0	0	0	0
04M	0	0	0	0	0	0	0	0
05M	0	0	0	0	0	0	0	0
06M	0	0	0	0	0	0	0	0
07F	0	0	0	0	0	0	0	0
08F	0	0	0	0	0	0	0	0
09F	0	0	0	0	0	0	0	0
10F	0	0	0	0	0	0	0	0
11F	0	0	0	0	0	0	0	0
12F	0	0	0	0	0	0	0	0
0.5 MG/KG/DAY								
13M	0	0	0	0	0	0	0	0
14M	0	0	0	0	0	0	0	0
15M	0	0	0	0	0	0	0	-
16M	0	0	0	0	0	0	0	0
17M	0	0	0	0	0	0	0	0
18M	0	0	0	0	0	0	0	0
19F	0	0	0	0	0	0	0	0
20F	0	0	0	0	0	0	0	0
21F	0	0	0	0	0	0	0	0
22F	0	0	0	0	0	0	0	0
23F	0	0	0	0	0	0	0	0
24F	0	0	0	0	0	0	0	0
2.0 MG/KG/DAY								
25M	0	0	0	0	0	0	0	0
26M	0	0	0	0	0	0	0	0
27M	0	0	0	0	0	0	0	0
28M	0	0	0	0	0	0	0	0
29M	0	0	0	0	0	0	0	0
30M	0	0	0	0	0	0	0	0
31F	0	0	0	0	0	0	0	-
32F	0	0	0	0	0	0	0	0
33F	0	0	0	0	0	0	0	0
34F	0	0	0	0	0	0	0	0
35F	0	0	0	0	0	0	0	0
36F	0	0	0	0	0	0	0	0
8.0 MG/KG/DAY								
37M	0	0	0	0	0	0	0	0
38M	0	0	0	0	0	0	0	0
39M	0	0	0	0	0	0	0	0
40M	0	0	0	0	0	0	0	0
41M	0	0	0	0	0	0	0	0
42M	0	0	0	0	0	0	0	0
43F	0	0	0	0	0	0	0	0
44F	0	0	0	0	0	0	0	0
45F	0	0	0	0	0	0	0	0
46F	0	0	0	0	0	0	0	0
47F	0	0	0	0	0	0	0	0
48F	0	0	0	0	0	0	0	0
32 MG/KG/DAY								
49M	0	0	0	0	0	0	-	0
50M	0	0	0	0	0	0	0	0
51M	0	0	0	0	0	0	-	0
52M	0	0	0	0	0	0	0	0
53M	0	0	0	0	0	0	0	0
54M	0	0	0	0	0	0	0	0
55F	0	0	0	0	0	a	---	---
56F	0	0	0	0	0	0	0	0
57F	0	0	0	0	0	0	0	0
58F	0	0	0	0	0	b	---	---
59F	0	0	0	0	0	0	0	-
60F	0	0	0	0	0	0	0	0

^a animal sacrificed during test week 14

^b animal died during test week 16

SCALE: 0 - Negative 3 - Many
1 - Trace 4 - Very Many, Severe
2 - Moderate - = Urine color precludes
test results
--- = Animal no longer
alive

TABLE 91
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
URINARY MBCs (AVERAGE/400X FIELD)

DOSE LEVEL	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	1	0	0	0	0	0	0	0
02M	9	3	0	2	1	0	1	0
03M	0	3	1	1	0	0	0	0
04M	1	1	1	3	0	0	0	0
05M	1	2	1	0	0	0	0	0
06M	2	0	1	0	0	0	7	0
07F	1	15	95	1	0	0	0	0
08F	0	1	0	1	0	0	0	0
09F	1	1	2	4	0	0	0	0
10F	1	4	1	1	1	1	0	0
11F	5	14	25	0	0	0	0	0
12F	8	1	1	0	1	0	1	0
0.5 MG/KG/DAY								
13M	1	0	0	2	0	0	0	0
14M	1	0	0	0	0	0	0	0
15M	3	7	1	1	0	1	0	-
16M	0	0	1	1	0	0	0	0
17M	0	0	1	0	0	0	0	0
18M	1	0	0	1	1	1	0	0
19F	3	8	0	1	0	1	2	0
20F	3	9	1	0	0	1	0	0
21F	30	15	6	1	0	0	0	0
22F	0	0	0	0	0	1	0	2
23F	0	1	1	0	0	0	0	0
24F	50	24	47	46	15	0	0	1
2.0 MG/KG/DAY								
25M	0	0	0	1	0	2	1	1
26M	0	0	0	0	0	0	0	0
27M	0	1	0	2	0	0	1	0
28M	2	0	0	1	0	0	0	0
29M	1	2	1	2	0	0	1	0
30M	0	1	0	2	0	0	1	0
31F	1	6	1	1	1	1	1	-
32F	2	1	2	1	0	1	0	0
33F	1	1	1	0	0	0	0	0
34F	14	5	1	1	0	1	0	0
35F	1	0	0	7	7	1	2	0
36F	0	40	8	0	1	0	3	0
8.0 MG/KG/DAY								
37M	0	1	0	0	0	0	-	0
38M	3	2	2	4	0	0	0	0
39M	0	1	0	0	0	0	0	0
40M	3	0	1	2	0	0	2	0
41M	1	0	0	0	0	0	1	0
42M	1	2	0	4	1	1	1	2
43F	1	2	0	1	0	1	0	0
44F	4	2	0	0	0	0	0	0
45F	2	15	1	0	1	0	0	0
46F	1	1	3	1	1	1	0	0
47F	3	0	4	9	0	1	0	0
48F	0	2	100	1	1	0	0	0
32 MG/KG/DAY								
49M	0	4	0	2	0	2	-	0
50M	1	0	3	1	1	2	4	1
51M	0	0	0	0	0	0	-	0
52M	0	1	0	0	0	0	1	0
53M	2	3	3	1	2	2	2	1
54M	0	1	0	1	0	1	0	1
55F	5	15	100	22	0	a---	---	---
56F	0	10	2	1	1	0	0	0
57F	1	2	5	1	3	0	0	0
58F	20	40	100	3	0	b---	---	---
59F	0	0	1	1	0	1	0	-
60F	2	5	9	5	0	0	0	0

^a animal sacrificed during test week 14

^b animal died during test week 16

SCALE: - = Urine color precludes test results
--- = Animal no longer alive

TABLE 92
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
URINARY UROBILINOGEN

DOSE LEVEL	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	0	0	0	0	0	0	0	0
02M	0	0	0	0	0	0	0	0
03M	0	0	0	0	0	0	0	0
04M	0	0	0	0	0	0	0	0
05M	0	0	0	0	0	0	0	0
06M	0	0	0	0	0	0	0	0
07F	0	0	0	0	0	0	0	0
08F	0	0	0	0	0	0	0	0
09F	0	0	0	0	0	0	0	0
10F	0	0	0	0	0	0	0	0
11F	0	0	0	0	0	0	0	0
12F	0	0	0	0	0	0	0	0
0.5 MG/KG/DAY								
13M	0	0	0	0	0	0	0	0
14M	0	0	0	0	0	0	0	0
15M	0	0	0	0	0	0	0	0
16M	0	0	0	0	0	0	0	0
17M	0	0	0	0	0	0	0	0
18M	0	0	0	0	0	0	0	0
19F	0	0	0	0	0	0	0	0
20F	0	0	0	0	0	0	0	0
21F	0	0	0	0	0	0	0	0
22F	0	0	0	0	0	0	0	0
23F	0	0	0	0	0	0	0	0
24F	0	0	0	0	0	0	0	0
2.0 MG/KG/DAY								
25M	0	0	0	0	0	0	0	0
26M	0	0	0	0	0	0	0	0
27M	0	0	0	0	0	0	0	0
28M	0	0	0	0	0	0	0	0
29M	0	0	0	0	0	0	0	0
30M	0	0	0	0	0	0	0	1
31F	0	0	0	0	0	0	0	1
32F	0	0	0	0	0	0	0	0
33F	0	0	0	0	0	0	0	0
34F	0	0	0	0	0	0	0	1
35F	0	0	0	0	0	0	0	0
36F	0	0	0	0	0	0	0	0
8.0 MG/KG/DAY								
37M	0	0	0	0	0	0	0	0
38M	0	0	0	0	0	0	0	0
39M	0	0	0	0	0	0	0	0
40M	0	0	0	0	0	0	0	1
41M	0	0	0	0	0	0	0	0
42M	0	0	0	0	0	0	0	0
43F	0	0	0	0	0	0	0	0
44F	0	0	0	0	0	0	0	0
45F	0	0	0	0	0	0	0	0
46F	0	0	0	0	0	0	0	0
47F	0	0	0	0	0	0	0	0
48F	0	0	0	0	0	0	0	0
32 MG/KG/DAY								
49M	0	0	0	0	0	1	1	1
50M	0	0	0	0	0	0	1	1
51M	0	0	0	0	0	0	1	1
52M	0	0	0	0	0	0	1	1
53M	0	0	0	0	0	0	2	1
54M	0	0	0	0	0	0	0	0
55F	0	0	0	0	0	a	1	1
56F	0	0	0	0	0	2	1	1
57F	0	0	0	0	0	0	1	1
58F	0	0	0	0	0	0	1	1
59F	0	0	0	0	0	0	0	0
60F	0	0	0	0	0	1	0	0

^a animals sacrificed during test week 14

^b animal died during test week 16

SCALE: 0 = Negative
1 = Trace
2 = Moderate

3 = Many
4 = Very many, severe
- = Urine color precludes test results
--- = Animal no longer alive

TABLE 93
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
URINARY BILIRUBIN

DOSE LEVEL	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	0	0	0	0	0	0	0	0
02M	0	0	0	0	0	1	0	0
03M	0	0	0	0	0	0	1	1
04M	0	0	0	0	0	1	1	1
05M	0	0	0	0	0	0	0	0
06M	0	0	0	0	0	1	0	1
07F	0	0	0	0	0	0	0	0
08F	0	0	0	0	0	0	0	0
09F	0	0	0	0	0	0	1	1
10F	0	0	0	0	0	1	1	1
11F	0	0	0	0	0	1	1	0
12F	0	0	0	0	0	0	0	1
0.5 MG/KG/DAY								
13M	0	0	0	0	0	0	0	0
14M	0	0	0	0	0	0	0	0
15M	0	0	0	0	0	0	0	0
16M	0	0	0	0	0	0	0	0
17M	0	0	0	0	0	0	0	0
18M	0	0	0	0	0	0	0	0
19F	0	0	0	0	0	0	0	0
20F	0	0	0	0	0	0	0	0
21F	0	0	0	0	0	1	2	1
22F	0	0	0	0	0	0	0	0
23F	0	0	0	0	0	0	0	1
24F	0	0	0	0	0	0	0	0
2.0 MG/KG/DAY								
25M	0	0	0	0	0	0	0	0
26M	0	0	0	0	0	1	0	0
27M	0	0	0	0	0	0	0	1
28M	0	0	0	0	0	1	1	0
29M	0	0	0	0	0	2	1	1
30M	0	0	0	0	0	1	1	2
31F	0	0	0	0	0	2	2	1
32F	0	0	0	0	0	1	0	0
33F	0	0	0	0	0	0	0	0
34F	0	0	0	0	0	0	1	2
35F	0	0	0	0	0	1	1	2
36F	0	0	0	0	0	1	1	0
8.0 MG/KG/DAY								
37M	0	0	0	0	0	0	0	0
38M	0	0	0	0	0	0	0	1
39M	0	0	0	0	0	2	1	0
40M	0	0	0	0	0	2	1	3
41M	0	0	0	0	0	1	1	1
42M	0	0	0	0	1	0	0	3
43F	0	0	0	0	0	1	0	0
44F	0	0	0	0	0	0	0	0
45F	0	0	0	0	0	1	1	2
46F	0	0	0	0	0	2	2	2
47F	0	0	0	0	0	0	0	0
48F	0	0	0	0	0	0	0	0
32 MG/KG/DAY								
49M	0	0	0	0	1	1	1	0
50M	0	0	0	0	1	0	3	3
51M	0	0	0	0	1	2	1	3
52M	0	0	0	0	1	0	2	3
53M	0	0	0	0	1	1	3	2
54M	0	0	0	0	1	0	0	3
55F	0	0	0	0	1	1	---	---
56F	0	0	0	0	1	1	3	0
57F	0	0	0	0	1	2	---	---
58F	0	0	0	3	1	6	---	---
59F	0	0	0	0	1	1	1	2
60F	0	0	0	0	0	0	0	2

^a animal sacrificed during test week 14

^b animal died during test week 16

SCALE: 0 = Negative
1 = Trace
2 = Moderate

3 = Many
4 = Very many, severe
- = Urine color precludes test results
--- = Animal no longer alive

TABLE 94
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
URINARY KETONES

DOSE LEVEL	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	0	0	0	0	0	1	1	0
02M	0	0	0	0	0	0	0	0
03M	0	0	0	0	0	0	0	0
04M	0	0	0	0	0	0	0	0
05M	0	0	0	1	0	0	0	0
06M								
07F	0	0	0	0	0	0	0	0
08F	0	0	0	0	0	0	1	0
09F	0	0	0	0	0	0	0	0
10F	0	0	0	0	0	0	0	0
11F	0	0	0	0	0	0	0	0
12F	0	0	0	0	0	0	0	0
0.5 MG/KG/DAY								
13M	0	0	0	0	0	0	0	0
14M	0	0	0	0	0	0	0	0
15M	0	0	0	0	0	0	0	0
16M	0	0	0	1	0	1	1	0
17M	0	0	0	1	0	0	0	0
18M	0	0	0	0	0	0	0	0
19F	0	0	0	1	0	0	0	0
20F	0	0	0	0	0	0	0	0
21F	0	0	0	0	0	0	0	0
22F	0	0	0	0	0	0	0	0
23F	0	0	0	0	0	0	0	0
24F	0	0	0	0	0	0	0	0
2.0 MG/KG/DAY								
25M	0	0	0	0	0	0	0	0
26M	0	0	0	0	0	0	0	0
27M	0	0	0	0	0	0	0	0
28M	0	0	0	1	0	0	0	0
29M	0	0	0	0	0	0	0	0
30M	0	0	0	0	0	0	0	0
31F	0	0	0	0	0	0	0	0
32F	0	0	0	0	0	0	0	0
33F	0	0	0	0	0	0	0	0
34F	0	0	0	0	0	0	0	1
35F	0	0	0	0	0	0	0	1
36F	0	0	0	0	0	0	0	0
8.0 MG/KG/DAY								
37M	0	0	0	0	0	0	0	0
38M	0	0	0	0	0	0	0	0
39M	0	0	0	0	0	0	0	0
40M	0	0	0	0	0	0	0	0
41M	0	0	0	0	0	0	0	0
42M	0	0	0	0	0	0	0	0
43F	0	0	0	0	1	0	0	0
44F	0	0	0	0	0	0	0	0
45F	0	0	0	0	0	0	0	1
46F	0	0	0	0	0	0	0	0
47F	0	0	0	0	0	0	0	0
48F	0	0	0	0	0	0	0	0
32 MG/KG/DAY								
49M	0	0	0	0	—	—	—	0
50M	0	0	0	0	—	0	—	0
51M	0	0	0	0	—	0	—	0
52M	0	0	0	0	—	0	—	0
53M	0	0	0	0	0	0	0	0
54M	0	0	0	0	—	0	0	0
55F	0	0	0	0	—	a	---	---
56F	0	0	0	0	0	0	—	0
57F	0	0	0	0	—	0	—	0
58F	0	0	0	0	—	b	---	---
59F	0	0	0	0	0	0	0	0
60F	0	0	—	0	1	0	0	0

^a animal sacrificed during test week 14

^b animal died during test week 16

SCALE: 0 = Negative 3 = Many
1 = Trace 4 = Very many, severe
2 = Moderate - = Urine color precludes
test results
--- = Animal no longer alive

TABLE 95
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
URINARY GLUCOSE

DOSE LEVEL	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	0	0	0	0	0	0	0	0
02M	0	0	0	0	0	0	0	0
03M	0	0	0	0	0	0	0	0
04M	0	0	0	0	0	0	0	0
05M	0	0	0	0	0	0	0	0
06M	0	0	0	0	0	0	0	0
07F	0	0	0	0	0	0	0	0
08F	0	0	0	0	0	0	0	0
09F	0	0	0	0	0	0	0	0
10F	0	0	0	0	0	0	0	0
11F	0	0	0	0	0	0	0	0
12F	0	0	0	0	0	0	0	0
0.5 MG/KG/DAY								
13M	0	0	0	0	0	0	0	0
14M	0	0	0	0	0	0	0	0
15M	0	0	0	0	0	0	0	0
16M	0	0	0	0	0	0	0	0
17M	0	0	0	0	0	0	0	0
18M	0	0	0	0	0	0	0	0
19F	0	0	0	0	0	0	0	0
20F	0	0	0	0	0	0	0	0
21F	0	0	0	0	0	0	0	0
22F	0	0	0	0	0	0	0	0
23F	0	0	0	0	0	0	0	0
24F	0	0	0	0	0	0	0	0
2.0 MG/KG/DAY								
25M	0	0	0	0	0	0	0	0
26M	0	0	0	0	0	0	0	0
27M	0	0	0	0	0	0	0	0
28M	0	0	0	0	0	0	0	0
29M	0	0	0	0	0	0	0	0
30M	0	0	0	0	0	0	0	0
31F	0	0	0	0	0	0	0	0
32F	0	0	0	0	0	0	0	0
33F	0	0	0	0	0	0	0	0
34F	0	0	0	0	0	0	0	0
35F	0	0	0	0	0	0	0	0
36F	0	0	0	0	0	0	0	0
8.0 MG/KG/DAY								
37M	0	0	0	0	0	0	0	0
38M	0	0	0	0	0	0	0	0
39M	0	0	0	0	0	0	0	0
40M	0	0	0	0	0	0	0	0
41M	0	0	0	0	0	0	0	0
42M	0	0	0	0	0	0	0	0
43F	0	0	0	0	0	0	0	0
44F	0	0	0	0	0	0	0	0
45F	0	0	0	0	0	0	0	0
46F	0	0	0	0	0	0	0	0
47F	0	0	0	0	0	0	0	0
48F	0	0	0	0	0	0	0	0
32 MG/KG/DAY								
49M	0	0	0	0	0	0	0	0
50M	0	0	0	0	0	0	0	0
51M	0	0	0	0	0	0	0	0
52M	0	0	0	0	0	0	0	0
53M	0	0	0	0	0	0	0	0
54M	0	0	0	0	0	0	0	0
55F	0	0	0	0	a	---	---	---
56F	0	0	0	0	0	0	0	0
57F	0	0	0	0	0	0	0	0
58F	0	0	0	0	b	---	---	---
59F	0	0	0	0	0	0	0	0
60F	0	0	0	0	0	0	0	0

^a animal sacrificed during test week 14

^b animal died during test week 16

SCALE: 0 = Negative
1 = Trace
2 = Moderate

3 = Many
4 = Very many, severe
- = Urine color precludes test results
--- = Animal no longer alive

TABLE 96
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
URINARY MUCOUS

DOSE LEVEL	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	0	0	0	0	0	0	0	0
02M	0	0	0	0	0	0	0	0
03M	0	0	0	0	0	0	0	0
04M	0	0	0	0	0	0	0	0
05M	0	0	0	0	0	0	0	0
06M	0	0	0	0	0	0	0	0
07F	0	0	0	0	0	0	0	0
08F	0	0	0	0	0	0	0	0
09F	0	0	0	0	0	0	0	0
10F	0	0	0	0	0	0	0	0
11F	0	0	0	0	0	0	0	0
12F	0	0	0	0	0	0	0	0
0.5 MG/KG/DAY								
13M	0	0	0	0	0	0	0	0
14M	0	0	0	0	0	0	0	0
15M	0	0	0	0	0	0	0	0
16M	0	0	0	0	0	0	0	0
17M	0	0	0	0	0	0	0	0
18M	0	0	0	0	0	0	0	0
19F	0	0	0	0	0	0	0	0
20F	0	0	0	0	0	0	0	0
21F	0	0	0	0	0	0	0	0
22F	0	0	0	0	0	0	0	0
23F	0	0	0	0	0	0	0	0
24F	0	0	0	0	0	0	0	0
2.0 MG/KG/DAY								
25M	0	0	0	0	0	0	0	0
26M	0	0	0	0	0	0	0	0
27M	0	0	0	0	0	0	0	0
28M	0	0	0	0	0	0	0	0
29M	0	0	0	0	0	0	0	0
30M	0	0	0	0	0	0	0	0
31F	0	0	0	0	0	0	0	0
32F	0	0	0	0	0	0	0	0
33F	0	0	0	0	0	0	0	0
34F	0	0	0	0	0	0	0	0
35F	0	0	0	0	0	0	0	0
36F	0	0	0	0	0	0	0	0
8.0 MG/KG/DAY								
37M	0	0	0	0	0	0	0	0
38M	0	0	0	0	0	0	0	0
39M	0	0	0	0	0	0	0	0
40M	0	0	0	0	0	0	0	0
41M	0	0	0	0	0	0	0	0
42M	0	0	0	0	0	0	0	0
43F	0	0	0	0	0	0	0	0
44F	0	0	0	0	0	0	0	0
45F	0	0	0	0	1	0	0	0
46F	0	0	0	0	0	0	0	0
47F	0	0	0	0	0	0	0	0
48F	0	0	0	0	0	0	0	0
32 MG/KG/DAY								
49M	0	0	0	0	0	0	0	0
50M	0	0	0	0	0	0	0	0
51M	0	0	0	0	0	0	0	0
52M	0	0	0	0	0	0	0	0
53M	0	0	0	0	0	0	0	0
54M	0	0	0	0	0	0	0	0
55F	0	0	0	0	0	a---	---	---
56F	0	0	0	0	0	0	0	0
57F	0	0	0	0	0	0	0	0
58F	0	0	0	0	0	b---	---	---
59F	0	0	0	0	0	0	0	0
60F	0	0	0	0	0	0	0	0

^a animal sacrificed during test week 14

^b animal died during test week 16

SCALE 0 = Negative
1 = Trace
2 = Moderate

3 = Many
4 = Very many, severe
- = Urine color precludes test results
--- = Animal no longer alive

ORGAN WEIGHT MEASUREMENTS OF MALE DOGS
MEAN AND S.D. (% OF TERMINAL BODY WEIGHT)
TREATMENT GROUP (MG/KG/DAY)

ORGAN	0.0	0.5	2.0	8.0	32.0
BODY (KG)	11.22 ± 0.60	10.57 ± 1.54	10.73 ± 1.34	9.35 ± 1.20*	9.40 ± 0.40*
BRAIN	0.71 ± 0.02	0.80 ± 0.15	0.75 ± 0.13	0.84 ± 0.11	0.81 ± 0.05
HEART	0.88 ± 0.11	0.96 ± 0.12	0.85 ± 0.11	0.89 ± 0.03	0.87 ± 0.03
KIDNEY *	0.54 ± 0.09	0.62 ± 0.09	0.52 ± 0.03	0.61 ± 0.14	0.61 ± 0.15
ADRENAL *	0.0132 ± 0.0012	0.0159 ± 0.0055	0.0127 ± 0.0022	0.0148 ± 0.0032	0.0135 ± 0.0029
PITUITARY	0.0007 ± 0.0001	0.0009 ± 0.0004	0.0013 ± 0.0014	0.0021 ± 0.0021	0.0020 ± 0.0030
LIVER	2.79 ± 0.10	3.28 ± 0.36	2.99 ± 0.29	3.67 ± 0.34*	4.42 ± 0.71*
SPLEEN	0.37 ± 0.14	0.31 ± 0.08	0.30 ± 0.06	0.36 ± 0.10	0.97 ± 0.20*
TESTES*	0.1458 ± 0.0224	0.1535 ± 0.0279	0.1410 ± 0.0221	0.1497 ± 0.0257	0.1571 ± 0.0238
THYROID	0.0076 ± 0.0011	0.0098 ± 0.0025	0.0089 ± 0.0026	0.0115 ± 0.0023*	0.0086 ± 0.0019

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

* Paired organ weights

Table 109

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 ORGAN WEIGHT MEASUREMENTS OF MALE DOGS
 MEAN AND S.D. (G)
 TREATMENT GROUP (MG/KG/DAY)

ORGAN	0.0	0.5	2.0	8.0	32.0
BODY (KG)	11.22 ± 0.60	10.57 ± 1.54	10.73 ± 1.34	9.35 ± 1.20*	9.40 ± 0.40*
BRAIN	79.3 ± 5.1	83.5 ± 10.0	79.0 ± 8.1	77.7 ± 4.3	76.3 ± 4.3
HEART	98.8 ± 7.6	99.8 ± 9.1	91.0 ± 9.8	83.1 ± 11.8*	82.0 ± 3.6*
KIDNEY*	60.17 ± 7.77	64.58 ± 4.53	55.72 ± 4.76	56.00 ± 10.71	57.48 ± 14.97
ADRENAL*	1.49 ± 0.19	1.68 ± 0.63	1.34 ± 0.21	1.37 ± 0.26	1.27 ± 0.31
PITUITARY	0.08 ± 0.01	0.09 ± 0.03	0.14 ± 0.18	0.19 ± 0.19	0.19 ± 0.30
LIVER	313.1 ± 16.3	342.7 ± 29.6	319.0 ± 34.8	341.0 ± 33.3	416.1 ± 74.6*
SPLEEN	41.4 ± 14.5	32.5 ± 7.3	32.0 ± 7.8	34.8 ± 13.6	91.5 ± 21.1*
TESTES *	16.38 ± 2.77	16.06 ± 2.80	15.13 ± 3.02	13.92 ± 2.37	14.80 ± 2.58
THYROID	0.86 ± 0.14	1.02 ± 0.25	0.96 ± 0.35	1.09 ± 0.34	0.80 ± 0.18

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

*Paired organ weights

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 ELECTROCARDIOGRAPHY MEASUREMENTS OF MALE DOGS
 QRS MEAN AND S.D.
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-1	173. ± 15.	183. ± 19.	182. ± 16.	182. ± 26.	180. ± 6.
13	188. ± 10.	175. ± 22.	175. ± 12.	193. ± 23.	182. ± 10.
25	175. ± 15.	171. ± 17.	165. ± 8.	178. ± 13.	160. ± 0.

ELECTROCARDIOGRAPHY MEASUREMENTS OF FEMALE DOGS
 QRS MEAN AND S.D.
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-1	190. ± 18.	178. ± 13.	175. ± 15.	188. ± 27.	185. ± 22.
13	187. ± 10.	175. ± 15.	180. ± 17.	195. ± 8.	183. ± 14.
25	168. ± 10.	160. ± 0.	167. ± 12.	177. ± 20.	165. ± 6.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 107

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

ELECTROCARDIOGRAPHY MEASUREMENTS OF MALE DOGS
 PQ MEAN AND S.D.
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-1	85. ± 14.	85. ± 8.	88. ± 8.	87. ± 12.	82. ± 10.
13	103. ± 14.	90. ± 11.	95. ± 14.	97. ± 10.	92. ± 10.
25	98. ± 8.	88. ± 13.	87. ± 10.	93. ± 18.	90. ± 14.

ELECTROCARDIOGRAPHY MEASUREMENTS OF FEMALE DOGS
 PQ MEAN AND S.D.
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-1	93. ± 16.	83. ± 12.	85. ± 8.	83. ± 15.	88. ± 10.
13	100. ± 14.	88. ± 10.	93. ± 12.	98. ± 13.	92. ± 10.
25	102. ± 13.	87. ± 10.	87. ± 8.	88. ± 10.	85. ± 10.*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 106

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 ELECTROCARDIOGRAPHY MEASUREMENTS OF MALE DOGS
 HEART RATE MEAN AND S.D.
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-1	154. ± 22.	145. ± 21.	132. ± 33.	153. ± 29.	146. ± 23.
13	115. ± 18.	143. ± 51.	121. ± 22.	111. ± 21.	133. ± 14.
25	114. ± 16.	128. ± 21.	127. ± 13.	133. ± 27.	133. ± 19.

ELECTROCARDIOGRAPHY MEASUREMENTS OF FEMALE DOGS
 HEART RATE MEAN AND S.D.
 TREATMENT GROUP (MG/KG/DAY)

TEST WEEK	0.0	0.5	2.0	8.0	32.0
-1	149. ± 19.	146. ± 35.	159. ± 31.	142. ± 28.	146. ± 27.
13	135. ± 27.	148. ± 20.	131. ± 11.	122. ± 23.	134. ± 25.
25	141. ± 21.	133. ± 13.	129. ± 24.	118. ± 23.	142. ± 11.

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

Table 105

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 OPHTHALMIC EXAMINATIONS
 FOR FEMALE DOGS

Study No. L6116, No. 5
 Sex Female

Treatment Group	Dose (mg/kg/day)	Test Animal No.	Pre-Study	13 week	Final exam.
I	0	7	NVL	NVL	NVL
		8	NVL	NVL	NVL-PV (OS)
		9	NVL	NVL	NVL
		10	NVL	NVL	OU-VS
		11	NVL	NVL	NVL
		12	NVL	NVL	OU-VS
II	0.5	19	NVL	NVL	NVL
		20	NVL	NVL	NVL
		21	NVL	NVL	NVL
		22	NVL	OS-corneal scar	NVL-PV (OS)
		23	NVL	OD-focal hyper reflectivity	NVL
		24	NVL	NVL	NVL
III	2	31	NVL	NVL	NVL
		32	NVL	NVL	NVL
		33	OU-SM. OPTIC NERVE OU-PV	OU-SM-O.N.	OU-SM. O.N. retinal exudates
		34	NVL	NVL	OS-mild VS
		35	NVL	NVL	OS-mild VH
		36	NVL-OS-PV	NVL	NVL-PV
IV	8	43	NVL	OS-hyper-reflective	OU-VS
		44	NVL	OU-tapetal color	OU-tapetal color
		45	NVL	NVL	NVL
		46	NVL	NVL	OU-VS
		47	NVL	NVL	NVL
		48	NVL	NVL	OU-VH
V	32	55	NVL	NVL	(not examined)
		56	NVL	NVL	NVL
		57	NVL	NVL	OU-VS
		58	NVL-OS-PV	NVL	(not examined)
		59	NVL	NVL	OU-VS: sheathed retinal vessels (OS)
		60	NVL	mild hyper-reflectivity	OU-VS

NVL - No Visible Lesions VS- Vitreal Strands OS- Left Eye
 PV- Pigment Variation VH- Vitreal Haze OD- Right Eye
 PH- Persistent Hyaloid OU- Both Eyes
 ON- Optic Nerve

Table 104
 TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 OPHTHALMIC EXAMINATIONS
 FOR MALE DOGS

Study No. L6116, No. 5

Sex Male

Treatment Group	Dose (mg/kg/day)	Test Animal No.	Pre-Study	13 week	Final exam.
I	0	1	NVL	NVL	NVL
		2	NVL	NVL	NVL
		3	NVL	NVL ^{sl} optic sm nerve	NVL-PV (OS)
		4	NVL	NVL	NVL
		5	NVL	NVL	NVL
		6	NVL	NVL	NVL-PV (OE)
II	0.5	13	NVL	NVL	OU-VS
		14	NVL	NVL	NVL
		15	NVL	OU-tapetal color	OU-tapetal color
		16	NVL	NVL	NVL
		17	NVL	NVL	NVL
		18	NVL	OU-PPM	NVL
III	2	25	NVL-OD-PV	NVL	NVL
		26	NVL-OS-PV	NVL-OS-PV	NVL
		27	NVL	NVL-OU-prom. lens suture	NVL
		28	NVL	NVL	NVL
		29	NVL	NVL-PH	NVL
		30	NVL	NVL	NVL
IV	8	37	NVL	NVL	NVL
		38	NVL	NVL	NVL
		39	NVL	NVL	OU-VS
		40	NVL	NVL	NVL
		41	NVL	NVL	OU-VS; OS-PV
		42	NVL	NVL	NVL
V	32	49	NVL-OS-PV	NVL-OS-PV ^{old}	OU-VS; OU-PV
		50	NVL	NVL	NVL
		51	NVL	NVL	OU-VS
		52	NVL	NVL	NVL
		53	NVL	NVL	NVL
		54	NVL	NVL	NVL

NVL - No Visible Lesions
 PV- Pigment Variation
 PH- Persistent Hyaloid

VS- Vitreal Strands
 VH- Vitreal Haze

OS- Left Eye
 OD- Right Eye
 OU- Both Eyes

TABLE 103
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
ADDITIONAL URINARY OBSERVATIONS

DOSE LEVEL	PRETEST PERIOD		TEST WEEK						
	-3	-1	3	8	12	17	22	26	
0.0 MG/KG/DAY									
01M	A2,C2	A1,C4	A3,C4	A1,B1,C4	A2,B2,C3	A1,C3	A2,C2	A1,C3	
02M	A3,C3	A2,C2	A1,C4	A2,C3	A1,C3	A1,C2	A1,C4	A1,C1,B1	
03M	A2,C3	A3,C2	A3,B2,C2	A3,B1,C4	A1,C3	A2,C3	A1,C2	A1,C1	
04M	A2,C2	A2,C1	A1,C4	A2,C2	A3,B2,C2	A4,C3	A1,B2,C2	A2,C1	
05M	A2,C3	A2,C2	A2,C3	A3,C4	A2,C3	A3,C3	A3,C4	A2,C3	
06M	A2,C3	A2,C4	A3,B1,C2	A3,C2	A1,C3	A3,C2	A1	A1,C4	
07F	A2,C2	A2,C2	A3,C2	A2,C4	A1,C4	A1,C3	A1,C1	A2,C2	
08F	A1,C4	A3,C3	A3,C2	A2,C4	A3,C4	A2,C4	A1,C4	A3,C3	
09F	A2,C3	A1,C1	A1,C1	A1,C2	A1,C3	A1,C3	A1,C1	A1,C2	
10F	A2,C1	A2,C1	A2,C1	A2,C1	A3,C2	A1,C3	A1,C1	A3,C3	
11F	A3,C3	A3,C1	A2,C3	A3,C4	A1,C4	A1,C4	A1,C3	A3,C2	
12F	A3,C2	A2,C3	A3,C1	A4,C3	A1,C2	A2,C4	A1,C1	A1,C3	
0.5 MG/KG/DAY									
13M	A2,C2	A1,C3	A1,C2	A3,B1,C4	A1,C2	A1,C4	A1,C1	A1,C1	
14M	A1,C2	A1,C3	A1,C4	A1,C2	A1,C4	A1,C3	A1,C4	A1,C2	
15M	A3,C2	A3,C1	A2,C3	A4,C3	A1,C3	A1,C4	A1,C3	-	
16M	A2,C4	A3,C4	A2,C4	A2,C3	A3,C3	A1,C4	A1,C3	A3,C2	
17M	A2,C2	A3,C4	A2,C4	A2,C4	A3,C4	A1,C4	A1,B1,C4	A1,C1	
18M	A3,C2	A3,C4	A2,C4	A3,C4	A1,C4	A2,C4	A1,C2	A2,C4	
19F	A3,C2	A2,C1	A3,C4	A3,C2	A2,C3	A1,C3	A2,C2	A2,C2	
20F	A2,C2	A3,C2	A2,C2	A1,C4	A1,C3	A1,C1	A1,C3	A2,C2	
21F	A2,C3	A2,C2	A2,C1	A3,C2	A3,C3	A3,C2	A2,C4	A3,C1	
22F	A3,C3	A3,C2	A2,C3	A2,C3	A4,C4	A1,C4	A2,C3	A2,C3	
23F	A3,C4	A2,C2	A1,C2	A1,C1	A2,C4	A1,C4	A1,C4	A1,C2	
24F	A3,C3	A3,C4	A2,C2	A3,C2	A3,C3	A1,C4	A1,C4	A2,C3	
2.0 MG/KG/DAY									
25M	A1,C4	A3,C3	A3,C3	A3,B1,C2	A2,C3	A1,B2,C1	A3,C3	A2,C3	
26M	A3,C4	A2,C4	A1,C4	A2,B3,C2	A2,B1,C4	A4,C3	A1,C4	A2,C2	
27M	A2,C3	A2,C3	A2,B1,C4	A2,B3,C2	A1,B1,C4	A1,C3	A1,C4	A2,C2	
28M	A3,C3	A3,C1	A3,C2	A2,C4	A4,C4	A3,C3	A2,C1	A2,C1	
29M	A3,C2	A2,C2	A4,C4	A3,C3	A4,C4	A3,C2	A2,B1,C1	A2,C1	
30M	A2,C2	A2,C1	A3,C1	A4,C4	A4,C4	A2,C3	A1,C2	A1,B1,C1	
31F	A2,C4	A2,C2	A3,C3	A2,C1	A3,C2	A3,C1	A1,C1	-	
32F	A3,C3	A2,C3	A2,C2	A2,C2	A2,C3	A1,C4	A1,C3	A3,C2	
33F	A2,C3	A3,C3	A3,C2	A1,C4	A2,C4	A2,C3	A1,C2	A3,C3	
34F	A3,C3	A3,C2	A4,C1	A4,C1	A3,C4	A1,C3	A1,C2	A1,C1	
35F	A3,C4	A3,C2	A4,C3	A3,C2	A1,C2	A1,C1	A1,C1	A1,C1	
36F	A4,C2	A2,C2	A3,C4	A1,C2	A2,C4	A4,C3	A1,C1	A2,C4	
8.0 MG/KG/DAY									
37M	A3,C3	A2,C4	A2,C3	A1,C4	A1,C4	A1,C4	A2,C1	A4,C2	
38M	A3,C3	A1,C2	A3,B1,C3	A3,C3	A3,C4	A1,C4	A1,C4	A2,C4	
39M	A3,C4	A2,C3	A3,C4	A1,C3	A1,C3	A1,C4	A2,C3	A1,C2	
40M	A2,C2	A1,C3	A2,C3	A2,C3	A2,C4	A2,C4	A1,C2	A2,C1	
41M	A2,C2	A2,C3	A3,C4	A4,C1	A1,C3	A1,C4	A1,C3	A3,B1,C2	
42M	A2,C4	A3,C3	A2,C3	A3,B1,C3	A3,C1	A1,C3	A1,C4	A3,C2	
43F	A2,C1	A1,C1	A1,C3	A4,C2	A2,C4	A1,C3	A1,C2	A3,C3	
44F	A2,C3	A3,C2	A2,C3	A3,C3	A1,C4	A1,C4	A1,C3	A3,C1	
45F	A2,C3	A2,C2	A3,C2	A4,C4	A2,C3	A2,C4	A2,C1	A3,C3	
46F	A2,C2	A2,C4	A1,C4	A2,C2	A2,C4	A3,C2	A1,C1	A1,C1	
47F	A2,C1	A1,C4	A4,C3	A3,C4	A4,C4	A1,C3	A1,C3	A1,C3	
48F	A3,C3	A2,C2	A3,C2	A3,C4	A2,C4	A1,C3	A1,C2	A1,C3	
30 MG/KG/DAY									
49M	A3,C4	A3,C1	A2,C2	A1,C4	A3,B2,C2	A4,B2,C2	-	A2,C3	
50M	A3,C3	A3,C2	A2,C2	A4,B2,C1	A4,B1,C4	A1,B1,C4	A1,B1,C1	A2,C2	
51M	A2,C3	A3,C4	A3,C4	A2,B1,C3	A2,C3	A1,B1,C1	-	A2,C3	
52M	A3,C4	A2,C3	A3,C4	A1,B1,C4	A3,C4	A1,B3,C3	A1,C4	A2,C1	
53M	A2,C4	A3,C3	A2,B2,C2	A4,B3,C2	A4,B3,C4	A2,B2,C3	A1,C3	A3,C2	
54M	A3,C4	A2,C3	A2,C2	A2,B1,C2	A2,C4	A1,C3	A1,C1	A2,C2	
55F	A2,C3	A3,C1	A2,C3	A2,C4	A4,C2	a---	---	---	
56F	A3,C4	A2,C3	A1,C1	A1,C4	A2,C3	A3,C3	A1,C1	A3,C1	
57F	A2,C4	A1,C3	A4,C4	A4,C3	A2,C3	A2,C2	A1,C2	A1,C1	
58F	A4,C2	A2,C1	A2,C2	A2,C2	A2,C4	b---	---	---	
59F	A4,C3	A4,C3	A3,C4	A3,C4	A2,C4	A1,C3	A1,C4	-	
60F	A3,C2	A2,C1	A2,C2	A3,C2	A3,C2	A1,C3	A1,C3	A3,C2	

^a animal sacrificed during test week 14

^b animal died during test week 16

CODE: A = Sediment SCALE: 0 = Negative 3 = Many
B = Sperm 1 = Trace 4 = Very Many.
C = Bacteria 2 = Moderate Severe
- = Urine color precludes test results
--- = Animal no longer alive

TABLE 102
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
URINARY TRIPLE PHOSPHATE CRYSTALS

DOSE LEVEL	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	2	0	0	0	0	1	1	0
02M	2	0	3	4	1	1	0	1
03M	0	1	0	2	1	3	1	1
04M	0	0	1	1	0	1	1	1
05M	0	2	1	2	0	0	1	0
06M	1	0	1	2	1	3	1	0
07F	2	1	2	0	1	2	1	4
08F	0	0	0	0	0	1	1	0
09F	0	0	0	0	1	0	1	0
10F	3	0	1	1	0	1	1	3
11F	0	3	0	1	3	2	1	0
12F	1	1	0	0	1	2	1	1
0.5 MG/KG/DAY								
13M	1	0	0	0	0	1	1	0
14M	1	0	0	0	0	0	1	0
15M	0	0	1	4	0	2	0	—
16M	0	0	1	1	0	1	1	2
17M	1	1	1	2	2	2	1	4
18M	0	0	0	2	1	2	1	0
19F	4	2	0	1	2	2	0	1
20F	2	3	1	1	0	0	2	0
21F	1	2	1	2	1	3	4	1
22F	1	1	1	0	0	1	1	0
23F	0	0	1	0	0	1	1	0
24F	1	0	0	0	0	1	1	0
2.0 MG/KG/DAY								
25M	1	1	1	2	1	1	3	1
26M	1	2	1	1	1	1	0	0
27M	1	1	1	2	1	2	1	1
28M	0	0	1	2	1	4	1	0
29M	1	0	0	2	0	2	2	1
30M	0	0	0	1	1	2	2	1
31F	1	0	3	0	0	0	1	—
32F	2	1	1	2	2	2	1	1
33F	0	0	0	0	0	4	3	2
34F	0	1	1	4	2	2	1	1
35F	1	0	2	1	2	1	1	2
36F	4	0	1	2	2	4	0	0
8.0 MG/KG/DAY								
37M	0	1	3	1	2	1	4	0
38M	2	1	2	0	3	1	2	0
39M	2	1	0	3	1	0	3	0
40M	1	1	1	1	2	2	2	0
41M	0	0	1	4	1	1	3	1
42M	1	1	1	0	1	1	4	2
43F	4	0	0	0	2	2	1	0
44F	1	1	0	0	0	1	1	0
45F	0	0	0	2	3	2	0	0
46F	4	0	1	1	1	2	2	1
47F	1	2	0	0	0	2	3	0
48F	1	1	2	0	0	1	2	2
32 MG/KG/DAY								
49M	1	0	1	0	0	0	—	0
50M	0	3	4	0	4	2	4	2
51M	3	1	1	1	2	0	—	0
52M	0	1	3	1	1	3	0	0
53M	0	1	1	0	0	0	1	2
54M	2	0	1	1	2	0	0	0
55F	0	0	0	0	1	a	---	---
56F	0	0	1	0	1	0	1	0
57F	2	1	4	0	1	3	3	1
58F	4	0	1	0	2	b	---	---
59F	0	0	2	0	2	2	0	—
60F	1	2	0	1	0	0	0	2

^a animal sacrificed during test week 14

^b animal died during test week 16

SCALE: 0 = Negative
1 = Trace
2 = Moderate

3 = Many
4 = Very Many, Severe
- = Urine color precludes test results
--- = Animal no longer alive

TABLE 101
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
URIC ACID

DOSE LEVEL	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	0	0	0	0	0	0	0	0
02M	0	0	0	0	0	0	0	0
03M	0	0	0	0	0	0	0	0
04M	0	0	0	0	0	0	0	0
05M	0	0	0	0	0	0	0	0
06M	0	0	0	0	0	0	0	0
07F	0	0	0	0	0	0	0	0
08F	0	0	0	0	0	0	0	0
09F	0	0	0	0	0	0	0	0
10F	0	0	0	0	0	0	0	0
11F	0	0	0	0	0	0	0	0
12F	0	0	0	0	0	0	0	0
0.5 MG/KG/DAY								
13M	0	0	0	0	0	0	0	0
14M	0	0	0	0	0	0	0	0
15M	0	0	0	0	0	0	0	0
16M	0	0	0	0	0	0	0	0
17M	0	0	0	0	0	0	0	0
18M	0	0	0	0	0	0	0	0
19F	0	0	0	0	0	0	0	0
20F	0	0	0	0	0	0	0	0
21F	0	0	0	0	0	0	0	0
22F	0	0	0	0	0	0	0	0
23F	0	0	0	0	0	0	0	0
24F	0	0	0	0	0	0	0	0
2.0 MG/KG/DAY								
25M	0	0	0	0	0	0	0	0
26M	0	0	0	0	0	0	0	0
27M	0	0	0	0	0	0	0	0
28M	0	0	0	0	0	0	0	0
29M	0	0	0	0	0	0	0	0
30M	0	0	0	0	0	0	0	0
31F	0	0	0	0	0	0	0	0
32F	0	0	0	0	0	0	0	0
33F	0	0	0	0	0	0	0	0
34F	0	0	0	0	0	0	0	0
35F	0	0	0	0	0	0	0	0
36F	0	0	0	0	0	0	0	0
8.0 MG/KG/DAY								
37M	0	0	0	0	0	0	0	0
38M	0	0	0	0	0	0	0	0
39M	0	0	0	0	0	0	0	0
40M	0	0	0	0	0	0	0	0
41M	0	0	0	0	0	0	0	0
42M	0	0	0	0	0	0	0	0
43F	0	0	0	0	0	0	0	0
44F	0	0	0	0	0	0	0	0
45F	0	0	0	0	0	0	0	0
46F	0	0	0	0	0	0	0	0
47F	0	0	0	0	0	0	0	0
48F	0	0	0	0	0	0	0	0
32 MG/KG/DAY								
49M	0	0	0	0	0	0	0	0
50M	0	0	0	0	0	0	0	0
51M	0	0	0	0	0	0	0	0
52M	0	0	0	0	0	0	0	0
53M	0	0	0	0	0	0	0	0
54M	0	0	0	0	0	0	0	0
55F	0	0	0	0	0	0	0	0
56F	0	0	0	0	0	0	0	0
57F	0	0	0	0	0	0	0	0
58F	0	0	0	0	0	0	0	0
59F	0	0	0	0	0	0	0	0
60F	0	0	0	0	0	0	0	0

^a animal sacrificed during test week 14

^b animal died during test week 16

SCALE: 0 = Negative 3 = Many
1 = Trace 4 = Very many, severe
2 = Moderate
- = Urine color precludes test results
--- = Animal no longer alive

TABLE 100
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
CALCIUM SALTS

DOSE LEVEL	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	0	0	0	0	0	0	0	0
02M	0	0	0	0	0	0	0	0
03M	0	0	0	0	0	0	0	0
04M	0	0	0	0	0	0	0	0
05M	0	0	0	0	0	0	0	0
06M	0	0	0	0	0	0	0	0
07F	0	0	0	0	0	0	0	0
08F	0	0	0	0	0	0	0	0
09F	0	0	0	0	0	0	0	0
10F	0	0	0	0	0	0	0	0
11F	0	0	0	0	0	0	0	0
12F	0	0	0	0	0	0	0	0
0.5 MG/KG/DAY								
13M	0	0	0	0	0	0	0	0
14M	0	0	0	0	0	0	0	0
15M	0	0	0	0	0	0	0	0
16M	0	0	0	0	0	0	0	0
17M	0	0	0	0	0	0	0	0
18M	0	0	0	0	0	0	0	0
19F	0	0	0	0	0	0	0	0
20F	0	0	0	0	0	0	0	0
21F	0	0	0	0	0	0	0	0
22F	0	0	0	0	0	0	0	0
23F	0	0	0	0	0	0	0	0
24F	0	0	0	0	0	0	0	0
2.0 MG/KG/DAY								
25M	0	0	0	0	0	0	0	0
26M	0	0	0	0	0	0	0	0
27M	0	0	0	0	0	0	0	0
28M	0	0	0	0	0	0	0	0
29M	0	0	0	0	0	0	0	0
30M	0	0	0	0	0	0	0	0
31F	0	0	0	0	0	0	0	0
32F	0	0	0	0	0	0	0	0
33F	0	0	0	0	0	0	0	0
34F	0	0	0	0	0	0	0	0
35F	0	0	0	0	0	0	0	0
36F	0	0	0	0	0	0	0	0
8.0 MG/KG/DAY								
37M	0	0	0	0	0	0	0	0
38M	0	0	0	0	0	0	0	0
39M	0	0	0	0	0	0	0	0
40M	0	0	0	0	0	0	0	0
41M	0	0	0	0	0	0	0	0
42M	0	0	0	0	0	0	0	0
43F	0	0	0	0	0	0	0	0
44F	0	0	0	0	0	0	0	0
45F	0	0	0	0	0	0	0	0
46F	0	0	0	0	0	0	0	0
47F	0	0	0	0	0	0	0	0
48F	0	0	0	0	0	0	0	0
32 MG/KG/DAY								
49M	0	0	0	0	0	0	1	0
50M	0	0	0	0	0	0	0	0
51M	0	0	0	0	0	0	0	0
52M	0	0	0	0	0	0	0	0
53M	0	0	0	0	0	0	0	0
54M	0	0	0	0	0	0	0	0
55F	0	0	0	0	0	a	---	---
56F	0	0	0	0	0	0	0	0
57F	0	0	0	0	0	0	0	0
58F	0	0	0	0	0	b	---	---
59F	0	0	0	0	0	0	0	1
60F	0	0	0	0	0	0	0	0

^a animal sacrificed during test week 14

^b animal died during test week 16

SCALE: 0 = Negative
1 = Trace
2 = Moderate

3 = Many
4 = Very many, severe
- = Urine color precludes test results
--- = Animal no longer alive

TABLE 99
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
URINARY RBCs (AVERAGE/400X FIELD)

DOSE LEVEL	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	0	0	3	2	1	0	0	4
02M	1	1	1	0	0	0	0	0
03M	2	0	2	0	0	0	0	0
04M	0	2	1	1	1	0	0	1
05M	2	0	11	56	7	0	1	1
06M	2	2	9	1	0	0	1	1
07F	3	0	0	0	0	0	0	0
08F	1	7	0	2	2	2	0	7
09F	1	2	1	0	3	0	0	0
10F	0	1	0	0	0	1	0	0
11F	4	0	3	1	0	0	0	2
12F	1	1	6	9	0	0	0	4
0.5 MG/KG/DAY								
13M	0	0	1	1	0	1	0	0
14M	0	1	0	0	0	0	1	0
15M	1	0	1	1	2	2	0	-
16M	1	20	2	2	2	0	0	4
17M	2	1	1	1	0	0	0	0
18M	1	1	0	6	2	1	0	3
19F	0	1	9	1	0	0	0	1
20F	0	0	0	1	0	0	0	6
21F	0	2	0	0	1	1	0	1
22F	1	10	1	1	5	0	1	7
23F	10	1	1	0	0	0	0	0
24F	1	1	0	2	1	0	1	8
2.0 MG/KG/DAY								
25M	0	2	0	1	0	0	0	2
26M	2	2	0	1	0	1	0	1
27M	0	1	3	0	0	0	0	2
28M	2	31	0	0	3	0	0	0
29M	0	0	4	7	20	1	0	0
30M	1	1	12	30	30	0	0	0
31F	1	0	2	7	0	0	0	-
32F	5	0	0	1	0	0	0	2
33F	2	2	1	0	0	1	1	3
34F	0	1	3	3	1	0	0	0
35F	11	4	11	1	0	0	0	0
36F	0	0	1	0	0	0	0	1
8.0 MG/KG/DAY								
37M	2	0	0	0	0	0	-	3
38M	9	0	5	4	1	0	0	4
39M	1	1	2	0	0	0	1	0
40M	0	0	0	0	1	1	0	1
41M	0	0	1	1	0	0	0	0
42M	0	1	0	2	0	0	0	0
43F	1	11	2	2	0	0	0	4
44F	0	2	1	1	1	1	0	15
45F	1	0	0	1	0	0	0	1
46F	3	1	0	4	3	0	0	0
47F	0	0	14	0	3	0	0	0
48F	1	1	1	1	0	1	0	0
32 MG/KG/DAY								
49M	3	3	0	1	1	0	-	1
50M	2	8	0	0	1	0	0	0
51M	2	7	2	1	2	0	-	0
52M	4	2	-	1	1	0	0	4
53M	2	4	4	4	0	0	0	1
54M	9	1	1	1	1	0	0	14
55F	1	1	1	10	0	a	---	---
56F	1	2	0	1	2	7	1	0
57F	1	3	2	1	3	20 ^b	0	0
58F	0	0	0	0	1	b	---	---
59F	4	10	2	5	1	0	0	-
60F	1	1	1	3	0	0	0	1

^a animals sacrificed during test week 14

^b animal died during test week 16

^a Animal had red, mucoid discharge from vagina.

- = Urine color precludes test results

--- = Animal no longer alive

TABLE 98
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS

DOSE LEVEL	URINARY pH							
	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	6.5	6.0	6.5	6.5	6.0	7.5	9.0	8.5
02M	6.0	5.0	9.0	9.0	7.0	6.5	8.0	8.0
03M	7.0	6.0	8.0	9.0	6.5	8.0	8.0	7.5
04M	6.5	6.5	6.5	6.5	6.5	7.0	6.5	8.0
05M	7.0	6.0	7.0	8.5	6.5	6.5	7.0	8.0
06M	6.5	6.0	7.0	6.5	7.0	6.5	6.5	9.0
07F	6.5	7.5	7.0	6.5	7.0	6.5	8.0	9.0
08F	6.0	6.5	5.0	6.5	7.0	7.0	6.5	8.5
09F	6.5	6.0	6.0	6.0	6.5	6.5	8.0	6.0
10F	6.5	5.0	6.5	6.0	6.5	6.5	6.0	8.0
11F	6.0	7.0	6.0	9.0	8.0	9.0	8.0	8.5
12F	6.0	6.0	6.0	6.0	6.5	6.5	6.5	8.0
0.5 MG/KG/DAY								
13M	7.0	6.5	6.5	6.0	6.5	7.5	8.5	6.5
14M	6.0	6.0	6.5	6.5	6.0	6.5	8.0	8.0
15M	6.5	6.0	8.0	8.0	8.0	7.0	8.0	-
16M	7.0	6.5	6.5	8.0	7.0	8.0	9.0	7.0
17M	6.5	8.0	8.0	7.0	8.0	9.0	7.0	8.0
18M	6.5	6.5	7.0	7.0	6.5	6.5	7.0	8.5
19F	6.0	7.0	8.0	6.5	6.5	7.0	6.0	8.5
20F	6.5	6.5	9.0	9.0	7.0	7.0	7.0	8.0
21F	6.0	6.5	6.5	7.0	6.0	6.5	9.0	6.5
22F	8.0	6.5	6.5	6.5	6.5	7.0	7.0	9.0
23F	8.0	6.5	7.0	6.5	6.0	7.0	8.0	8.0
24F	6.0	6.0	6.0	6.5	6.0	6.5	6.5	8.5
2.0 MG/KG/DAY								
25M	8.0	6.0	7.0	6.5	6.5	6.0	6.5	8.0
26M	6.5	6.5	8.0	6.0	7.0	9.0	6.5	8.0
27M	6.0	6.0	6.5	6.5	8.0	8.0	6.5	8.0
28M	6.0	6.0	7.0	8.0	6.5	8.5	6.5	6.5
29M	6.5	6.0	6.5	6.5	6.0	8.5	7.0	6.5
30M	6.0	6.0	5.0	6.5	6.5	6.0	7.0	6.5
31F	6.5	6.0	8.0	6.0	6.0	6.0	7.0	-
32F	7.0	7.0	7.0	6.5	6.5	7.5	7.0	8.5
33F	8.0	6.0	6.0	6.0	6.0	7.0	6.5	9.0
34F	5.5	6.5	6.5	6.5	7.0	7.0	8.0	7.0
35F	9.0	7.0	6.5	6.5	6.5	5.5	6.5	7.5
36F	7.0	7.0	6.0	6.5	8.0	6.5	6.5	6.0
8.0 MG/KG/DAY								
37M	7.0	7.0	7.0	6.5	8.5	7.0	9.0	8.5
38M	7.0	7.0	7.0	7.0	7.0	6.0	7.0	8.5
39M	7.0	6.0	6.5	8.0	6.5	9.0	8.5	7.0
40M	7.0	7.0	8.0	8.0	6.5	7.0	7.0	8.0
41M	6.5	6.5	6.5	9.0	8.0	9.0	9.0	7.0
42M	6.5	6.0	6.5	6.5	6.0	8.0	9.0	7.0
43F	7.0	6.5	6.5	6.5	8.0	6.5	9.0	8.5
44F	7.0	6.0	8.0	5.5	8.0	6.5	8.0	8.0
45F	6.0	6.0	5.5	7.0	7.0	8.0	6.5	6.5
46F	8.0	6.5	8.0	8.5	6.5	8.0	6.5	6.5
47F	6.5	7.0	6.5	6.0	6.0	7.0	9.0	9.0
48F	6.5	6.5	6.0	6.0	6.0	5.5	9.0	8.0
32 MG/KG/DAY								
49M	8.0	6.0	6.5	6.5	-	-	-	7.0
50M	7.0	7.0	6.5	6.0	-	7.0	7.0	7.5
51M	6.5	6.0	7.0	6.0	-	6.5	-	6.0
52M	8.0	6.5	7.0	8.0	-	6.5	8.0	6.5
53M	6.0	6.5	6.0	6.0	6.5	6.5	6.5	7.5
54M	8.0	6.0	6.5	8.0	-	6.5	6.5	6.5
55F	6.5	6.0	5.5	6.0	-	a	---	---
56F	9.0	6.0	7.5	6.5	6.5	6.0	7.0	7.0
57F	7.0	6.0	9.0	7.0	-	6.0	-	7.0
58F	7.0	6.0	8.0	7.0	-	b	---	---
59F	6.5	6.0	7.5	6.5	7.0	6.5	6.5	9.0
60F	6.0	6.0	7.0	6.5	6.0	6.0	6.5	8.5

SCALE: - = Urine color precludes test results
--- = Animal no longer alive

^a animal sacrificed during test week 14

^b animal died during test week 16

TABLE 97
URINALYSIS MEASUREMENTS FOR MALE AND FEMALE DOGS
URINARY EPITHELIAL CELLS (AVERAGE/400X FIELD)

DOSE LEVEL	PRETEST PERIOD		TEST WEEK					
	-3	-1	3	8	12	17	22	26
0.0 MG/KG/DAY								
01M	0	0	0	0	0	0	0	0
02M	0	0	0	0	0	0	0	0
03M	0	1	0	0	0	0	0	0
04M	0	1	0	0	0	0	0	0
05M	0	0	0	0	0	0	0	1
06M	0	0	0	0	0	0	0	0
07F	0	0	1	0	0	0	0	0
08F	0	0	1	0	0	0	0	0
09F	1	1	0	0	1	0	0	0
10F	1	0	1	0	1	0	0	0
11F	0	0	0	0	0	0	0	1
12F	0	0	0	0	0	0	0	0
0.5 MG/KG/DAY								
13M	0	0	0	0	0	0	0	0
14M	0	0	0	0	0	0	0	0
15M	0	0	0	0	0	0	0	1
16M	0	1	0	0	0	0	0	0
17M	0	0	0	0	0	0	0	0
18M	2	0	0	0	0	1	0	0
19F	0	0	0	0	0	0	0	0
20F	0	0	1	0	0	0	0	0
21F	0	0	1	6	7	3	0	0
22F	0	0	0	1	0	0	0	0
23F	0	1	0	0	0	0	0	0
24F	0	0	0	0	0	0	0	0
2.0 MG/KG/DAY								
25M	0	0	0	1	0	4	1	0
26M	0	0	1	0	0	0	0	0
27M	0	0	1	0	0	0	0	0
28M	1	5	1	1	0	0	0	0
29M	0	0	1	0	0	1	0	1
30M	0	0	0	0	0	0	0	0
31F	0	0	0	2	0	8	2	1
32F	0	0	0	0	0	0	0	0
33F	0	0	0	0	0	0	0	0
34F	0	0	1	1	1	0	0	0
35F	0	1	0	1	0	0	0	0
36F	0	0	1	0	5	0	0	0
8.0 MG/KG/DAY								
37M	0	0	0	0	0	0	1	0
38M	0	0	0	0	0	0	0	0
39M	0	0	0	0	0	0	0	0
40M	0	0	0	0	0	2	0	0
41M	0	0	0	1	0	0	0	0
42M	0	0	7	1	1	1	0	0
43F	0	0	2	2	0	0	0	0
44F	0	0	0	0	0	0	0	0
45F	0	0	1	0	0	0	0	0
46F	0	0	0	0	1	0	0	0
47F	0	0	0	0	4	0	0	0
48F	0	0	1	0	2	0	0	0
32 MG/KG/DAY								
49M	0	1	0	0	2	0	1	0
50M	3	1	0	3	0	0	0	0
51M	0	0	0	0	0	0	1	0
52M	0	0	0	0	0	0	0	0
53M	0	0	0	0	1	1	0	0
54M	0	0	0	0	0	0	0	0
55F	0	0	0	0	0	a---	---	---
56F	0	0	0	0	0	1	0	0
57F	0	0	0	0	4	10	2	0
58F	0	0	1	0	0	b---	---	---
59F	0	0	0	0	0	0	0	1
60F	0	0	0	0	1	0	0	0

^a animal sacrificed during test week 14

^b animal died during test week 16

SCALE: - = Urine color precludes test results
--- = Animal no longer alive

Table 111

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

ORGAN WEIGHT MEASUREMENTS OF FEMALE DOGS
 MEAN AND S.D. (G)
 TREATMENT GROUP (MG/KG/DAY)

ORGAN	0.0	0.5	2.0	8.0	32.0
BODY (KG)	9.58 ± 1.76	9.10 ± 0.71	9.33 ± 1.37	8.87 ± 1.33	8.72 ± 1.02
BRAIN	75.0 ± 3.0	78.3 ± 5.1	71.6 ± 5.2	74.1 ± 4.4	73.3 ± 3.6
HEART	79.6 ± 7.3	87.7 ± 8.5	78.0 ± 5.0	85.7 ± 8.7	81.8 ± 9.7
KIDNEY *	43.49 ± 4.12	45.82 ± 6.06	41.50 ± 3.56	44.51 ± 5.67	51.11 ± 5.41
ADRENAL *	1.33 ± 0.21	1.30 ± 0.16	1.32 ± 0.28	1.34 ± 0.15	1.41 ± 0.12
PITUITARY	0.21 ± 0.33	0.13 ± 0.15	0.06 ± 0.01	0.07 ± 0.01	0.08 ± 0.01
LIVER	274.9 ± 38.0	264.0 ± 41.2	282.8 ± 40.6	294.9 ± 45.3	380.1 ± 43.8*
SPLEEN	28.2 ± 6.6	29.0 ± 5.9	29.6 ± 7.4	43.3 ± 8.4	81.5 ± 26.1*
TESTES *	1.01 ± 0.26	0.93 ± 0.25	0.89 ± 0.19	0.84 ± 0.16	0.91 ± 0.33
THYROID	0.90 ± 0.35	0.76 ± 0.11	0.90 ± 0.28	0.81 ± 0.07	0.45 ± 0.35*

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

* Paired organ weights

Table 112

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
 STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

ORGAN WEIGHT MEASUREMENTS OF FEMALE DOGS
 MEAN AND S.D. (% OF TERMINAL BODY WEIGHT)
 TREATMENT GROUP (MG/KG/DAY)

ORGAN	0.0	0.5	2.0	8.0	32.0
BODY (KG)	9.58 ± 1.76	9.10 ± 0.71	9.33 ± 1.37	8.87 ± 1.33	8.72 ± 1.02
BRAIN	0.81 ± 0.17	0.86 ± 0.03	0.78 ± 0.10	0.85 ± 0.09	0.85 ± 0.09
HEART	0.86 ± 0.18	0.97 ± 0.08	0.85 ± 0.13	0.98 ± 0.13	0.94 ± 0.05
KIDNEY *	0.47 ± 0.09	0.51 ± 0.07	0.45 ± 0.03	0.50 ± 0.04	0.59 ± 0.08*
ADRENAL *	0.0142 ± 0.0026	0.0144 ± 0.0022	0.0141 ± 0.0021	0.0153 ± 0.0027	0.0162 ± 0.0015
PITUITARY	0.0021 ± 0.0032	0.0014 ± 0.0018	0.0007 ± 0.0002	0.0008 ± 0.0001	0.0010 ± 0.0001
LIVER	2.92 ± 0.47	2.92 ± 0.50	3.06 ± 0.48	3.33 ± 0.11	4.37 ± 0.32*
SPLEEN	0.30 ± 0.06	0.32 ± 0.07	0.32 ± 0.07	0.49 ± 0.08*	0.93 ± 0.25*
TESTES *	0.0106 ± 0.0025	0.0102 ± 0.0029	0.0096 ± 0.0019	0.0096 ± 0.0018	0.0105 ± 0.0037
THYROID	0.0094 ± 0.0030	0.0083 ± 0.0008	0.0096 ± 0.0018	0.0083 ± 0.0007	0.0078 ± 0.0006

* MEAN SIGNIFICANTLY DIFFERENT FROM CONTROL GROUP MEAN, $P < 0.05$

* Paired organ weights

Table 113

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY
STUDY OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

Pathology Summary

Treatment Group	I	II	III	IV	V
Dose	0.0	0.5	2.0	8.0	32.0

Summary of Gross Necropsy Observations

	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>
LIVER:										
Enlarged	0	0	0	0	0	0	0	0	4	3
Friable	0	0	0	0	0	0	0	0	2	2
SPLEEN:										
Enlarged	2	0	0	1	3	0	2	4	6	5
LYMPH NODE:										
Enlarged, pigmented	0	0	0	0	0	0	0	1	0	3

Summary of Histopathologic Lesions

	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>
LIVER:										
Cloudy swelling, hepatocytic	0	0	5	2	5	6	6	6	5	4
Hepatocytomegalia	0	0	5	2	3	5	6	6	5	3
Hemosiderosis, histocytes/ Kupffer cells	0	0	0	0	0	1	6	6	5	4
Cirrhosis	0	0	0	0	0	0	1	0	6	1
SPLEEN:										
Congestion	2	0	0	0	1	2	6	5	6	2
Hemosiderosis	1	0	2	3	2	3	6	4	5	5
Erythropoiesis	0	0	0	0	0	1	0	1	4	1
SMALL INTESTINE:										
Membranous enteritis	0	0	2	3	3	3	2	3	5	2
BONE MARROW :										
Erythrocytic hypoplasia	0	0	1	1	2	3	5	4	2	4

N=6

APPENDIX I
TEST ARTICLE ANALYSIS

ANALYSIS OF TNT AND/OR RDX IN ANIMAL FEED

SCOPE AND APPLICATION

- 1.1 This method covers the determination of TNT and/or RDX in diet premixes and diet samples.
- 1.2 The sensitivity of this method is usually dependent on the level of interferences present in the samples, rather than the instrumental limitations.
- 1.3 This method is recommended for use only by experienced analysts familiar with High Performance Liquid Chromatography (HPLC) or under close supervision of such qualified persons.

SUMMARY OF THE METHOD

- 2.1 A weighed quantity of the premix was stirred with 50 ml of acetonitrile for 30 minutes. The suspension was filtered through a pad of celite and the filtrate was transferred with washings to a volumetric flask. Benzophenone, the internal standard was added to the filtrate or a portion thereof and this solution was diluted to its final volume. The samples were analyzed using reverse phase high performance liquid chromatography. Each was eluted on 3.9 mm x 30.0 cm μ -Bondapak C₁₈ column with methanol:water (60%:40%) and the eluant was monitored with an ultraviolet absorption detector at $\lambda = 254$ nm.

INTERFERENCES

- 3.1 Solvents, reagents, glassware and other sample processing hardware may yield discrete artifacts and/or elevated baselines causing misinterpretation of chromatograms. All of these materials must be shown to be free from interferences under the conditions of the analysis by running method blanks.
- 3.2 Interferences coextracted from the samples will vary considerably from source to source, depending on the type of animal feed used in the study.

MATERIALS

- 4.1 Erlenmeyer flasks, 125 ml
- 4.2 Filtering apparatus, vacuum flask, 125 ml; fritted glass filters, porosity M, ASTM 10-20 microns
- 4.3 Round bottom flasks, 24/40, 125 ml.

EQUIPMENT

- 5.1 Mettler Grammatic Analytical Balance, No. 1-910
- 5.2 Corning Hot Plate Stirrers BC 351
- 5.3 Buchi Evaporator, Model R
- 5.4 Higher Performance Liquid Chromatograph (Water's Model 244)
 - constant flow, isocratic pumping system
 - reverse phase column, 10 μ - 3.9 mm x 30 cm μ -Bondapak C₁₈ column
 - fix wavelength ultraviolet detector λ = 254 nm
 - strip chart recorder and electronic integrator capable of measuring peak areas and performing an internal standard calculation.

REAGENTS

- 6.1 Celite, analytical filter-aid, John-Mansville Company
- 6.2 Benzophenone, an internal standard, Aldrich Chemical Company
- 6.3 Methanol, Methylene Chloride, Burdick and Jackson Company

CALIBRATION

- 7.1 Calibration standards were prepared from stock solutions containing 200 μg TNT, RDX and benzophenone per ml acetonitrile so as to bracket the working range of the chromatographic system. These concentrations were: 2 $\mu\text{g}/\text{ml}$, 10 $\mu\text{g}/\text{ml}$, 20 $\mu\text{g}/\text{ml}$, and 40 $\mu\text{g}/\text{ml}$.
- 7.2 A constant injection volume of 10 μl was employed for all measurements.
- 7.3 In order to determine the precision of the HPLC system, a series of 6 replicate injections of the 20 $\mu\text{g}/\text{ml}$ solution were made. These measurements were made every few weeks or whenever instrument related problems were apparent.
- 7.4 Retention times should remain relatively constant (within $\pm 5\%$ day to day) with RDX being 2.8 minutes, TNT 4.6 minutes, and Benzophenone 10.1 minutes under the specified conditions.

QUALITY CONTROL

- 8.1 Before processing any samples, the analyst should demonstrate through the analysis of a blank that all glassware and reagents are interference free. Each time a set of samples is extracted or there is a change in reagents, a method blank should be processed as a safeguard against laboratory contamination.
- 8.2 Standard quality assurance practices were used with this method. A minimum of 5 replicate spiked samples were analyzed to validate the accuracy of the method. If doubt should arise concerning the identity of the peak on a chromatogram, confirmatory techniques such as mass spectrometry should be used.

SAMPLE EXTRACTION

- 9.1 A feed sample (usually one gram for the premix sample and 10 grams for the diet samples) was weighed out in a 125 ml Erlenmeyer flask using standard operating procedures. The extracting solvent (50.0 ml acetonitrile) was added to the flask and it was stoppered. The sample was extracted with stirring for 30 minutes at room temperature.
- 9.2 Following extraction the sample was filtered through a pad of celite supported on a fritted glass filter. The celite pad was prepared by adding 25.0 ml of a celite suspension (10 g of celite per liter acetonitrile) to the fritted glass funnel of the vacuum apparatus and applying the vacuum from a water aspirator.
- 9.3 The extraction mixture was swirled to form a uniform suspension and immediately poured into the glass funnel and filtered. A stirring rod was used to drain the last drops of liquid from the flask.
- 9.4 The extraction flask was rinsed four times with 3.0 ml of acetonitrile. The washings were transferred to the funnel of the vacuum apparatus using a Pasteur pipette. This procedure was repeated three times. The vacuum was reapplied and the washing procedure completed.
- 9.5 The extracts obtained from the diet premixes were transferred to a 500 ml volumetric flask via a funnel. The vacuum flask was rinsed four times with three ml acetonitrile. Each washing was individually transferred to the volumetric flask with a Pasteur pipette and the volume was brought to 500 ml with acetonitrile. An aliquot of the diluted filtrate (1 ml) was transferred using a volumetric pipette into a 10 ml volumetric flask. The internal standard solution (1 ml of 200 μ g benzophenone/ml acetonitrile) was added and this was brought to a volume of 10 ml with acetonitrile.

In the case of the diet samples, the extracts were transferred to a 100 ml volumetric flask in the manner described above and the extracts with washings was brought to volume with acetonitrile, after the internal standard benzophenone had been added. The solution was further diluted if this step was required to bring the sample into the working range of the chromatographic system.

STORAGE OF SAMPLES

- 10.1 If the above procedure is stopped at any point during a working day, the samples should be stored in stoppered vessels at room temperature in the absence of light.

HIGH PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC)

- 11.1 Each sample was analyzed by reverse phase HPLC using the conditions described below: column, 3.9 mm x 30.0 cm μ -Bondapak C_{18} ; solvent system, methanol:water (60%:40%, v/v); flow rate, 1.6 ml/min; detection, uv at 254 nm; sensitivity 0.1 AUFS. The retention times of TNT and benzophenone were 6.4 and 10.1 minutes, respectively. The limit of detection was 2 μ g TNT/ml acetonitrile and is defined as 5x the background noise. The representative chromatogram is Figure 1.
- 11.2 The chromatographic system was calibrated daily with a minimum of three injections of two standards representative of the chromatographic range.
- 11.3 An injection volume of 10.0 μ l was used for each sample. If the peak height exceed the linear range of a sample it was diluted and reanalyzed.

CALCULATIONS

- 12.1 Determine the concentration of TNT and/or RDX using the formula:

$$\% \text{ TNT in Sample} = \frac{(A_x)(F_x)(W_{is})}{A_{is}(W_s)} \times D \times 100$$

A_x = Area (X) where x is either RDX or TNT

A_{is} = Area (internal standard)

F_x = $\frac{\text{Area (X)} \times \text{weight (is)}}{\text{Area (is)} \times \text{weight (Ws)}}$

W_{is} = weight of the internal standard

W_s = weight of the sample

D = the dilution factor

12.2 The results should be reported in % TNT or RDX in the sample. Where replicate samples are analyzed, all data should be reported. All results were recorded in standard IITRI logbooks and these plus chromatograms and data tapes were retained in the Chemistry Division Q.A. files.

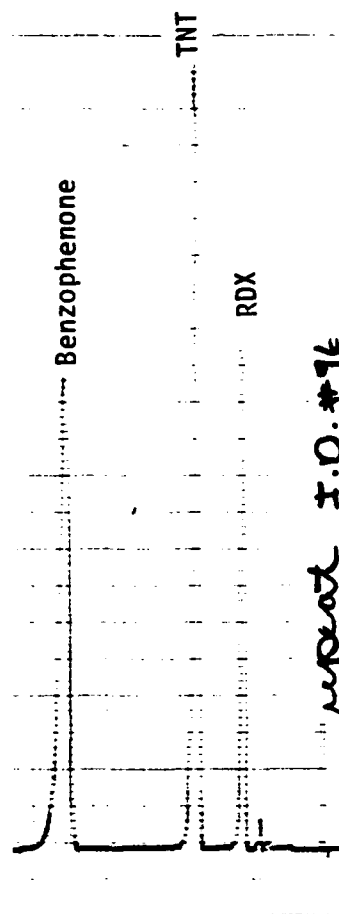
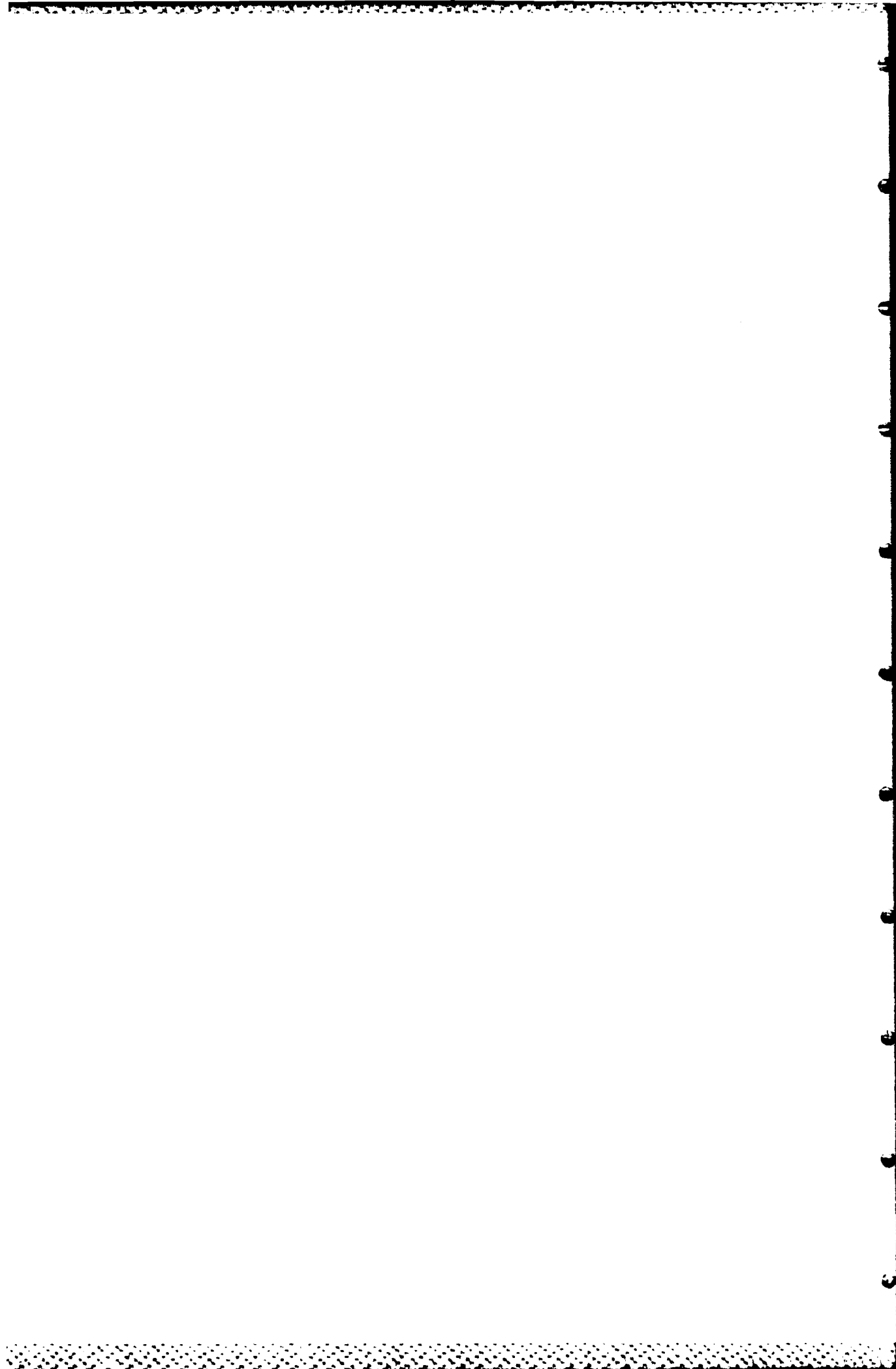


Figure 1. Chromatogram of TNT-RDX Benzophenone Standard,
20 µg/mL

ANALYTICAL DATA
% TNT IN PREMIXES

Date Prepared	Date Extracted	Premix No.	% TNT \pm S.D.
1/03/80	1/04/80	134-1	50.36 \pm 0.20
2/06/80	2/08/80	134-2.1	10.40 \pm 0.29
5/16/80	5/20/80	134-5	10.23 \pm 0.28
5/16/80	5/20/80	134-6	50.54 \pm 0.45
6/12/80	6/20/80	134-7	9.84 \pm 0.19
6/12/80	6/20/80	134-8	51.69 \pm 0.26
7/14/80	7/18/80	134-10	10.00 \pm 0.26
7/14/80	7/18/80	134-11	50.36 \pm 0.25
8/14/80	8/22/80	134-12	9.96 \pm 0.18
8/14/80	8/22/80	134-13	49.97 \pm 0.62
9/15/80	9/22/80	134-15	49.93 \pm 0.13
9/15/80	9/22/80	134-16	9.86 \pm 0.29



APPENDIX II
ASSAY OF GELATIN CAPSULES

INDIVIDUAL BODY WEIGHT VALUES (MG)
MALE

DOSE	G R O U P	D O S E	W E E K	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TERM
CONTROL	1	01	M	11.1	10.9	10.8	10.7	11.0	11.0	11.1	11.2	11.4	11.2	11.1	11.0	11.1	11.1	11.1
	1	02	M	10.7	10.7	10.7	10.9	11.0	11.0	11.0	10.8	10.8	10.8	10.8	11.1	11.0	11.2	11.7
	1	03	M	10.6	10.4	10.4	10.7	10.9	10.6	10.7	10.6	10.6	10.5	10.5	10.5	10.5	10.5	10.5
	1	04	M	10.6	10.4	10.4	10.7	10.8	10.7	10.7	10.7	10.5	10.7	10.6	11.0	11.0	11.4	11.2
	1	05	M	11.2	11.0	10.9	11.1	11.2	11.0	10.9	10.8	10.9	10.6	10.6	10.3	10.4	10.2	10.7
	1	06	M	10.9	10.7	10.8	11.3	11.1	11.0	11.2	11.5	11.6	11.4	11.4	11.5	11.5	11.5	12.1
5 MG/KG/DAY	2	13	M	11.5	11.3	11.2	11.4	11.4	11.1	11.0	11.1	10.8	10.6	10.4	10.4	10.5	10.7	10.9
	2	14	M	9.9	9.9	9.7	9.9	10.1	10.0	10.1	10.0	10.3	10.1	10.0	10.1	10.0	9.9	10.2
	2	15	M	11.0	11.0	10.8	10.5	10.6	10.4	10.4	10.3	10.3	10.1	10.2	10.3	10.2	10.3	10.4
	2	16	M	9.6	9.4	9.4	9.5	9.6	9.4	9.5	9.6	9.6	9.5	9.3	9.3	9.4	9.3	10.0
	2	17	M	9.3	9.0	8.9	9.1	9.3	9.4	9.4	9.2	9.0	9.2	9.1	9.3	9.5	9.5	8.6
	2	18	M	12.0	11.8	11.7	12.0	12.4	12.1	12.1	12.3	12.4	12.2	12.2	12.3	12.5	12.6	13.3
2 MG/KG/DAY	3	25	M	9.6	9.4	9.4	9.8	10.0	9.9	9.9	10.0	10.1	10.0	9.9	10.1	10.2	10.2	10.7
	3	26	M	10.0	9.8	9.9	10.6	10.0	10.0	9.8	9.6	9.5	9.5	9.2	9.4	9.2	9.5	9.8
	3	27	M	11.3	11.3	11.2	11.4	11.4	11.4	11.4	11.6	11.7	11.5	11.5	11.5	11.2	11.2	12.2
	3	28	M	11.3	11.2	11.2	11.3	11.4	11.4	11.3	11.3	11.3	11.1	11.1	11.3	11.3	11.2	11.8
	3	29	M	10.9	10.7	10.8	10.7	10.8	10.6	10.5	10.7	10.6	10.6	10.4	10.6	10.5	10.7	11.3
	3	30	M	9.1	8.9	9.1	9.3	9.5	9.5	9.4	9.3	9.3	9.2	9.0	9.0	9.2	9.0	8.6
8 MG/KG/DAY	4	37	M	9.9	9.8	9.8	9.8	10.1	10.0	9.9	9.9	10.0	9.9	9.7	10.0	9.9	10.0	10.0
	4	38	M	11.5	11.4	11.3	11.3	11.3	11.2	11.1	11.2	11.3	11.0	10.8	11.0	11.0	10.7	11.5
	4	39	M	8.4	8.2	8.2	8.4	8.4	8.4	8.3	8.5	8.4	8.1	8.0	8.2	8.2	8.2	8.6
	4	40	M	9.4	9.1	9.2	9.2	9.4	9.2	9.0	8.9	8.6	8.3	8.1	8.2	8.2	8.2	8.3
	4	41	M	9.1	9.0	9.0	9.3	9.3	9.1	9.0	8.9	8.9	8.6	8.4	8.8	8.8	8.5	8.8
	4	42	M	8.8	9.5	8.5	9.2	9.3	9.2	9.1	9.0	9.1	9.3	9.2	9.4	9.4	9.4	8.9
32 MG/KG/DAY	5	49	M	9.8	8.5	9.0	8.4	7.7	7.6	7.8	8.5	8.5	8.8	8.8	9.0	9.2	9.2	9.4
	5	50	M	7.9	7.9	7.9	8.0	8.4	8.5	8.8	9.0	9.2	9.3	9.4	9.3	9.5	9.6	9.4
	5	51	M	8.9	8.8	8.6	8.7	8.6	8.4	8.5	8.5	8.6	8.5	8.4	8.4	8.5	8.5	8.7
	5	52	M	9.6	9.3	9.2	9.3	9.5	9.1	9.2	9.0	9.0	8.7	8.8	9.0	9.2	9.2	9.3
	5	53	M	9.5	9.4	9.4	9.5	9.6	9.7	9.9	9.6	9.3	9.2	9.4	9.5	9.6	9.7	9.8
	5	54	M	9.8	9.7	9.7	9.8	9.8	9.6	9.6	9.8	9.9	9.8	9.6	10.0	9.9	9.8	9.8

--- INDICATES NO DATA

MALE

DOSE	G R O U P	D O G S E X	#	WEEK														
				-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12
CONTROL	1	01	M	9.9	10.2	11.1	11.5	10.9	10.8	10.8	11.1	11.1	11.3	11.8	10.8	10.6	11.0	10.9
	1	02	M	10.1	10.2	10.6	10.7	10.7	10.9	10.9	11.4	11.5	11.5	11.3	10.8	11.1	10.5	10.5
	1	03	M	8.5	8.5	8.8	8.9	9.0	9.2	9.1	9.6	10.0	10.1	10.7	10.2	10.2	10.4	10.6
	1	04	M	9.7	9.9	10.2	10.2	9.7	9.8	9.9	10.1	10.3	10.5	10.8	10.3	10.2	10.1	10.2
	1	05	M	9.4	9.6	10.0	10.3	10.2	10.6	10.5	10.7	11.0	11.2	11.3	11.6	11.5	11.1	11.1
	1	06	M	8.9	9.3	9.9	9.8	9.7	9.7	10.0	10.3	10.3	10.5	11.4	10.6	10.8	10.8	10.6
.5 MG/KG/DAY	2	13	M	9.7	10.0	10.8	11.0	10.5	10.5	10.9	11.1	11.1	11.1	11.8	11.1	11.1	11.1	11.1
	2	14	M	9.4	9.7	10.1	10.1	10.1	10.1	9.9	10.1	10.3	9.8	10.4	9.7	9.7	9.8	9.7
	2	15	M	9.9	10.2	10.4	10.2	10.4	10.6	10.8	10.7	10.9	10.9	10.8	10.7	11.0	10.8	10.8
	2	16	M	9.1	9.4	9.5	9.4	9.4	9.5	9.2	9.6	9.5	9.6	10.2	9.4	9.5	9.2	9.3
	2	17	M	8.1	8.4	9.2	9.2	9.1	9.3	9.4	9.4	9.5	9.6	9.8	9.1	9.1	8.8	8.9
	2	18	M	10.7	10.8	10.9	11.0	10.8	10.9	10.8	11.3	11.3	11.5	12.3	11.6	11.8	11.7	11.6
2 MG/KG/DAY	3	25	M	9.5	9.8	10.1	10.2	9.4	9.4	9.2	9.6	9.3	9.3	9.8	9.3	9.5	9.4	9.2
	3	26	M	8.9	9.0	9.2	9.1	9.0	9.4	9.2	9.4	9.4	9.6	10.2	9.6	9.6	9.5	9.5
	3	27	M	10.3	10.4	11.3	11.4	10.0	10.3	10.5	10.8	10.9	11.1	11.7	10.9	11.1	11.2	11.2
	3	28	M	9.9	10.1	10.5	10.3	9.8	10.5	10.9	11.0	11.4	11.5	11.7	11.3	11.1	11.1	11.1
	3	29	M	9.4	9.8	9.9	9.9	10.0	10.2	10.2	10.3	10.3	10.5	10.8	10.3	10.4	10.6	10.8
	3	30	M	8.1	8.2	8.6	8.5	8.6	8.5	8.2	8.9	9.0	9.0	9.6	8.7	9.1	9.2	8.9
8 MG/KG/DAY	4	37	M	8.6	9.0	8.7	8.4	8.9	9.4	9.5	9.5	9.8	10.0	10.1	10.2	9.9	9.9	9.9
	4	38	M	10.3	10.7	11.3	11.2	9.8	10.7	11.0	11.2	12.0	11.9	12.4	12.0	11.9	11.9	11.6
	4	39	M	9.9	10.1	11.0	10.6	10.1	10.1	10.0	9.7	9.8	9.6	9.4	8.5	8.4	8.1	8.0
	4	40	M	9.6	9.7	10.4	10.3	9.5	9.6	10.0	9.6	9.9	9.5	9.8	9.1	9.0	8.8	9.0
	4	41	M	8.4	8.7	8.9	8.7	8.8	8.8	8.9	9.0	8.9	9.1	9.5	9.1	9.1	8.8	8.8
	4	42	M	9.5	9.8	9.9	9.8	9.8	9.4	9.5	9.3	9.5	9.6	9.6	9.4	9.2	9.4	9.3
32 MG/KG/DAY	5	49	M	10.0	10.4	10.8	10.5	10.2	9.8	10.0	9.9	10.3	10.3	10.0	9.7	10.0	9.8	9.9
	5	50	M	9.0	9.1	9.1	8.5	8.6	8.3	8.8	9.3	9.4	9.6	8.6	8.8	8.0	7.6	7.9
	5	51	M	8.4	8.7	8.9	8.7	9.1	9.0	9.4	9.5	8.9	9.2	9.5	8.9	9.0	8.9	9.0
	5	52	M	9.3	9.8	10.2	9.9	9.3	9.6	9.6	9.9	9.9	10.1	9.9	9.7	9.7	9.5	9.4
	5	53	M	10.0	10.1	10.1	9.7	10.0	10.3	10.4	9.9	9.8	10.1	10.2	9.4	9.5	9.4	9.5
	5	54	M	9.4	9.7	10.0	9.8	9.5	10.0	10.1	10.4	10.5	10.6	10.3	9.8	10.0	10.0	9.9

--- INDICATES NO DATA

APPENDIX VI
INDIVIDUAL ANIMAL DATA

Qualitative Measurements

pH	Ketones	Blood
Protein	Bilirubin	Glucose
Multistix [®]		

Ames Division, Miles Laboratories
Elkhart, Indiana

Specific Gravity

American Optical temperature compensated refractometer

Microscopic Evaluation

Urinary sediments are stained with Sedi-stain and evaluated using the Ames Atlas of Urine Sediment, Ames Co.,
Division Miles Laboratories, Elkhart, Indiana

APPENDIX V
URINALYSIS METHODOLOGY

Bilirubin, Total

Modified Walters and Gerarde method

Centrifichem Centrifugal Analyzer System

Walters, M. and Gerarde, H. Microchem. J. 15, 231, 1970.

Bilirubin, Direct

Modified Walters and Gerarde method

Centrifichem Centrifugal Analyzer System

Walters, M. and Gerarde, H. Microchem. J. 15, 231, 1970.

Potassium

Flame photometry

Klina Flame Photometer (Beckman)

Total Protein

Biuret technique

Centrifichem Centrifugal Analyzer System

Failing, I.F., Jr., Buckley, M. W. and Zak, B. Am. J. Clin. Path. 33, 83, 1960.

Albumin

Bromocresol green method

Centrifichem Centrifugal Analyzer system

Rodkey, I.L. Clin. Chem. 11, 478, 1965.

Triglycerides

Tetrazolium salt reduction method

Centrifichem Centrifugal Analyzer System

Klotzsch, S., Serricchio, M. and Furedi, R.

Advances in Automated Analysis

Vol. 1, Mediad Inc., Tarrytown, N.W. p. 111, 1973.

Creatine Phosphokinase (CPK)

Modified Oliver method

Centrifichem Centrifugal Analyzer System

Oliver, I.T. Biochem. J. 61, 116, 1955.

Cholesterol

Cholesterol esterase-cholesterol oxidase method

Centrifichem Centrifugal Analyzer System

Rosesclaw, P., Bernt, E. and Gruber, W. Z. f. Klin. Chem. u. Klin. Biochem. 12, 226, 1974.

Calcium

Alizarin method

Centrifichem Centrifugal Analyzer System

Connerty, H.V. and Briggs, A.R. Clin. Chem. 11, 716, 1965.

Glucose

Hexokinase method

Centrifichem Centrifugal Analyzer System

Neeley, W.E. Clin. Chem. 18, 509, 1972.

Urea Nitrogen (BUN)

Modified urease technique

Centrifichem Centrifugal Analyzer System

Karmen, A. J. Clin. Invest. 34, 131, 1955.

Glutamic-Oxaloacetic Transaminase (SGOT)

Modified Karmen technique

Centrifichem Centrifugal Analyzer System

Henry, R.J., Chiamori, N., Golub, O.J. and Berkman, S.
Am. J. Clin. Path. 34, 381, 1960.

Glutamic-Pyruvic Transaminase (SGPT)

Modified Wroblewski and LaDue technique

Centrifichem Centrifugal Analyzer system

Henry, R.J., Chiamori, N., Golub, O.J., and Berkman, S.
Am. J. Clin. Path. 34, 381, 1960.

Alkaline Phosphatase

Modified Bessey-Lowry technique

Neumann, H. and Van Vreedendaal, M. Clin. Chem. Acta.
17, 183, 1967.

Chloride

Silver chloride precipitation method

Chloride Meter (Corning Medical Co.)

Catlove, E., Trantham, V. and Bowman, R.L. J. Lab. Clin.
Med. 50, 358, 1958.

Sodium

Flame photometry

Klina Flame Photometer (Beckman)

APPENDIX IV
CLINICAL CHEMISTRY METHODOLOGY

Leukocyte Differential Count (continued)

Wright stain procedure

Schalm, O.W., Jain, N.C. and Carroll, E.J. Veterinary Hematology, Color Plates Chapter, 3rd Edition, Lea & Febiger, 1975.

Nucleated RBCs

Wright stain procedure

Schalm, O.W., Jain, N.C. and Carroll, E.J. Veterinary Hematology, Color Plates Chapter, 3rd Edition, Lea & Febiger, 1975.

Platelet Count

Direct Method

Schalm, O.W., Jain, N.C. and Carroll, E.J. Veterinary Hematology, p. 69, 3rd Edition, Lea & Febiger, 1975.

Reticulocyte Count

New methylene blue staining procedure

Brecher, G. Am. J. Clin. Path. 19, 895, 1949.

Prothrombin Time

Quick One-Step method

Fibrometer precision coagulation timer (Fibrosystem; Bioquest Labs).

Clotting Time

Capillary tube method

Schalm, O.W., Jain, N.C. and Carroll, E.J. Veterinary Hematology, p. 69, 3rd Edition, Lea & Febiger, 1975.

Methemoglobin

Cyanomethemoglobin method

Evelyn, K.A. and Malloy, H.T. J. Biol. Chem. 126, 655, 1938.

Hemoglobin

Cyanmethemoglobin method

Coulter Counter Model S System

Hematocrit

Indirect method; calculated value based on erythrocyte count and mean corpuscular volume

Coulter Counter Model S System

Erythrocyte Count

Electronic Counting Procedure

Coulter Counter Model S System

Leukocyte Count

Electronic Counting Procedure

Coulter Counter Model S System

Mean Corpuscular Volume (MCV)

Electronic Sizing Procedure

Coulter Counter Model S System

Mean Corpuscular Hemoglobin (MCH)

Indirect method; calculated value based on erythrocyte count and hemoglobin

Coulter Counter Model S System

Mean Corpuscular Hemoglobin Concentration (MCHC)

Indirect method; calculated value based on hematocrit and hemoglobin

Coulter Counter Model S System

Leukocyte Differential Count

Neutrophils - Immature

Neutrophils - Mature

Monocytes

Basophils

Lymphocytes

Eosinophils

APPENDIX III
HEMATOLOGY METHODOLOGY

LILLY RESEARCH LABORATORIES

DIVISION OF ELI LILLY AND COMPANY • INDIANAPOLIS, INDIANA 46206 • TELEPHONE (317) 261-2000

November 9, 1979

Paul M. Lish, Ph.D.
Head, Toxicology and Pharmacology
Life Sciences Research
IIT Research Institute
10 West 35 Street
Chicago, Illinois 60616

Dear Dr. Lish:

We understand that a shipment of 15,000 empty capsules, size No. 000 clear have been shipped to you.

Following are control data concerning the various assays on the gelatin used in the manufacture of these capsules:


Bloom strength	250 - 288 gm
Viscosities	188 - 203 mps
Viscosity losses	13.6 - 18.7%
pH	5.1 - 5.7
Isoionic pH	
Type A	8.3 - 9.2
Type B	5.0 - 5.1
Loss on drying	9.9 - 11.4%
Residue on ignition	0.06 - 0.61%
Nitrites	2 - 22 ppm
Nitrates	29 - 142 ppm
Heavy metals	0
Arsenic	0
SO ₂	0

A range of results is given because these assays were done on eight different lots of gelatin that will be represented in the capsules sent to you. In addition, bacteriological tests performed for microorganisms were essentially negative as the results were well below permitted levels.

We hope these data will be sufficient for your records.

Sincerely,

ELI LILLY AND COMPANY



Mac L. Sullivan, R.Ph.
Manager
Medical Research Division

MLS:nd

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

INDIVIDUAL BODY WEIGHT VALUES (KG)
FEMALE

DOSE	G R O U P	D O S E	W E E K	1	2	3	4	5	6	7	8	9	10	11	12
CONTROL	1	07	F	8.6	9.0	9.1	9.3	9.8	9.7	10.0	9.9	10.3	10.2	9.9	10.0
	1	08	F	8.7	9.1	9.4	9.8	10.1	10.3	10.4	10.4	10.6	10.8	11.1	11.0
	1	09	F	7.0	7.0	7.0	7.2	7.2	7.7	7.5	7.3	8.0	7.1	7.1	7.2
	1	10	F	8.1	8.4	8.8	8.7	9.0	9.0	9.0	9.1	9.3	9.0	8.8	8.8
	1	11	F	9.0	9.4	9.7	9.9	10.1	10.5	10.5	10.6	10.8	10.4	10.5	10.5
	1	12	F	7.4	7.5	7.2	7.4	7.3	7.6	7.7	7.8	7.9	7.8	7.6	7.3
.5 MG/KG/DAY	2	19	F	7.7	7.9	7.7	8.0	8.2	8.5	8.6	8.8	9.1	8.8	9.0	8.9
	2	20	F	8.7	8.9	8.8	9.0	9.3	9.4	9.6	9.7	9.8	9.7	10.1	9.7
	2	21	F	6.4	6.5	6.5	6.6	6.9	7.0	7.1	7.5	7.4	7.3	7.6	7.8
	2	22	F	9.0	9.2	9.3	9.1	8.9	9.2	9.1	9.0	9.9	9.0	8.9	8.5
	2	23	F	9.3	9.7	9.8	10.0	10.1	10.2	10.6	10.7	10.9	10.4	10.4	10.5
	2	24	F	8.2	8.5	8.9	9.1	9.3	9.6	9.7	9.8	9.6	9.4	9.5	9.7
2 MG/KG/DAY	3	31	F	9.3	9.5	9.9	9.7	9.9	10.1	10.3	10.6	10.8	10.9	11.2	11.4
	3	32	F	8.4	8.6	9.0	8.7	8.8	8.3	8.5	8.2	8.7	8.0	7.9	8.0
	3	33	F	8.8	9.2	9.7	9.6	9.7	10.2	10.4	10.4	11.1	10.4	10.6	10.4
	3	34	F	8.2	8.7	8.7	9.0	8.9	9.0	9.1	9.2	9.1	8.7	8.8	8.5
	3	35	F	8.0	7.6	8.3	7.8	7.9	8.1	8.4	8.4	8.9	8.3	8.4	8.0
	3	36	F	6.7	6.8	6.9	7.0	7.1	8.0	8.1	8.6	8.5	8.8	9.0	9.3
8 MG/KG/DAY	4	43	F	7.9	8.0	8.0	7.9	7.6	8.2	8.0	8.1	8.3	8.2	8.3	8.5
	4	44	F	8.4	8.6	8.9	8.7	8.3	9.0	8.9	8.8	9.0	8.4	8.6	8.7
	4	45	F	7.2	7.5	7.3	7.2	6.8	7.3	7.7	7.9	7.8	7.9	8.0	7.8
	4	46	F	9.1	9.8	9.7	9.7	9.7	10.0	10.6	10.5	10.4	10.6	11.0	11.0
	4	47	F	9.0	9.0	9.1	9.0	9.1	9.5	9.5	9.6	9.5	9.0	9.6	9.4
	4	48	F	7.2	7.3	7.5	7.4	7.2	7.2	7.3	7.4	7.2	7.3	7.4	7.3
32 MG/KG/DAY	5	55	F	8.9	9.2	9.9	9.3	8.9	8.6	8.9	7.7	7.3	7.1	7.4	6.2
	5	56	F	10.0	10.3	10.2	10.2	10.6	11.1	11.1	11.4	11.4	11.2	11.5	11.6
	5	57	F	7.6	7.7	8.1	7.6	7.5	8.0	8.3	8.5	8.5	8.8	9.0	8.6
	5	58	F	6.5	6.6	6.8	6.9	6.9	6.9	6.9	6.8	6.6	6.8	6.9	6.9
	5	59	F	8.5	8.6	8.7	8.6	8.4	8.5	8.5	8.7	9.0	8.6	8.7	8.7
	5	60	F	9.0	8.9	7.8	8.1	6.7	7.5	7.5	7.9	8.2	7.9	7.9	8.0

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

INDIVIDUAL BODY WEIGHT VALUES (KG)
 FEMALE

DOSE	G R O U P	D O S E	#	WEEK																	TERM
				13	14	15	16	17	18	19	20	21	22	23	24	25	26				
CONTROL	1	07	F	10.2	10.1	9.9	9.9	9.8	10.1	10.3	10.5	10.5	10.3	10.5	10.8	10.8	10.5	10.7			
	1	08	F	10.9	11.0	11.1	11.3	11.1	11.4	11.4	11.3	11.8	11.6	11.6	11.8	11.8	12.0	12.0			
	1	09	F	7.5	7.3	7.3	7.2	7.2	7.2	7.0	7.1	7.2	7.0	7.0	7.1	7.2	7.3	7.5			
	1	10	F	9.1	8.9	9.0	9.0	9.0	9.0	9.0	9.1	8.9	8.8	8.8	9.1	9.0	9.2	9.3			
	1	11	F	10.7	11.1	10.8	11.0	10.7	11.0	10.9	10.9	10.6	10.4	10.5	10.8	10.6	11.0	10.3			
.5 MG/KG/DAY	1	12	F	7.4	7.3	7.5	7.6	7.5	7.5	7.5	7.3	7.5	7.3	7.3	7.2	7.4	7.3	7.7			
	2	19	F	9.4	9.3	9.1	9.3	9.3	9.3	9.2	9.2	9.4	9.3	9.2	9.3	9.4	9.5	9.9			
	2	20	F	10.1	9.8	9.6	9.8	9.6	9.5	9.3	9.1	9.1	8.8	8.6	8.5	8.5	8.5	8.4			
	2	21	F	8.1	8.1	8.4	8.7	8.0	8.3	8.5	8.3	8.3	7.9	7.9	8.2	8.4	8.2	8.4			
	2	22	F	8.7	8.3	8.3	8.5	8.3	8.5	8.4	8.6	8.8	8.5	8.5	8.6	8.7	8.4	8.6			
2 MG/KG/DAY	2	23	F	10.6	10.4	10.2	10.3	10.2	10.1	10.2	10.1	9.8	9.7	9.4	9.3	9.5	9.5	9.8			
	2	24	F	10.0	9.9	10.0	10.0	10.1	10.1	10.2	10.1	10.2	10.1	10.3	10.3	10.6	10.8	9.5			
	3	31	F	11.4	11.1	11.0	11.0	11.0	11.1	10.9	10.6	10.6	10.3	10.2	10.3	10.7	10.7	11.3			
	3	32	F	8.2	8.0	8.0	8.1	8.1	8.0	8.0	8.0	7.8	7.6	7.5	7.6	7.6	7.6	8.5			
	3	33	F	10.7	10.6	10.4	10.8	10.5	10.6	10.4	10.4	10.4	10.3	9.8	10.0	10.2	10.2	10.5			
8 MG/KG/DAY	3	34	F	8.7	8.6	8.8	8.8	8.8	8.7	8.8	8.6	8.7	8.4	8.7	8.5	8.2	8.3	8.2			
	3	35	F	8.2	8.2	8.1	8.2	8.2	8.1	8.2	8.2	8.3	8.2	8.2	8.5	8.2	8.2	7.9			
	3	36	F	9.5	9.8	9.6	9.9	9.7	9.8	9.9	10.3	10.4	10.7	10.8	10.5	10.4	10.1	9.6			
	4	43	F	8.5	8.4	8.5	8.4	8.2	8.2	8.2	8.5	8.3	8.1	8.0	8.2	8.2	8.1	8.2			
	4	44	F	8.4	9.7	9.8	10.0	10.0	9.8	9.6	9.8	9.8	9.5	9.5	9.2	9.4	9.4	9.3			
32 MG/KG/DAY	4	45	F	8.2	7.9	8.2	8.0	7.6	7.7	7.5	7.5	7.5	7.5	7.3	7.5	7.6	7.6	8.3			
	4	46	F	11.2	11.3	11.1	11.6	11.2	11.4	11.5	11.4	11.5	11.0	10.9	11.1	11.0	11.3	11.3			
	4	47	F	9.3	9.2	9.4	9.2	9.4	9.4	9.5	9.6	9.8	9.8	9.6	9.6	9.7	9.6	9.5			
	4	48	F	7.6	7.6	7.7	8.0	8.1	8.2	8.2	8.3	8.4	8.0	7.9	8.1	8.2	8.1	7.7			
	5	55	F	5.9	5.4	---	---	---	---	---	---	---	---	---	---	---	---	---			
	5	56	F	11.7	11.7	11.6	11.7	11.0	9.8	9.1	8.4	8.4	8.0	8.3	8.6	9.1	9.7	10.1			
	5	57	F	8.8	8.7	8.2	8.3	7.8	7.3	7.5	7.3	7.4	7.2	7.5	7.8	8.0	8.6	8.8			
	5	58	F	6.6	5.9	5.1	4.8	---	---	---	---	---	---	---	---	---	---	---			
	5	59	F	8.2	8.2	7.8	8.2	8.2	7.8	7.8	7.7	8.0	8.1	8.2	8.2	8.4	8.5	8.3			
	5	60	F	7.9	8.1	8.5	8.1	7.8	8.0	8.0	8.0	8.0	8.0	8.1	7.5	7.8	7.6	7.7			

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

INDIVIDUAL FOOD CONSUMPTION VALUES (G)
 MALE

DOSE	G R O U P	D O S E #	S E X	TEST WEEK														
				-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12
CONTROL	1	01	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	1	02	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	1	03	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	1	04	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	1	05	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	1	06	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
.5 MG/KG/DAY	2	13	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	14	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	15	M	351	400	400	400	400	351	400	400	400	400	400	400	400	400	400
	2	16	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	17	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	18	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
2 MG/KG/DAY	3	25	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	3	26	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	3	27	M	400	400	400	400	262	400	400	400	400	400	400	400	400	400	400
	3	28	M	400	400	400	45	266	400	400	260	400	400	400	400	400	400	400
	3	29	M	400	400	400	89	400	400	400	291	400	399	400	400	400	400	400
	3	30	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
8 MG/KG/DAY	4	37	M	268	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	4	38	M	400	400	400	400	141	400	400	400	400	400	400	400	400	400	400
	4	39	M	400	400	400	286	400	400	400	400	400	400	400	400	400	400	400
	4	40	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	4	41	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	4	42	M	400	400	400	400	400	400	341	400	400	400	400	400	170	400	228
32 MG/KG/DAY	5	49	M	400	400	400	54	400	400	295	400	400	400	400	207	279	214	245
	5	50	M	326	400	400	1	137	400	316	400	54	81	125	9	1	39	321
	5	51	M	400	400	400	43	193	400	340	395	400	400	400	400	400	400	400
	5	52	M	400	400	400	182	289	400	400	400	400	400	400	400	400	400	400
	5	53	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	5	54	M	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

INDIVIDUAL FOOD CONSUMPTION VALUES (G)
 MALE

DOSE	G R O U P	D O G S E X	TEST WEEK													
			13	14	15	16	17	18	19	20	21	22	23	24	25	26
CONTROL	1	01 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	1	02 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	1	03 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	1	04 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	1	05 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	1	06 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
5 MG/KG/DAY	2	13 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	14 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	15 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	16 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	17 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	18 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
2 MG/KG/DAY	3	25 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	3	26 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	3	27 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	3	28 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	3	29 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	3	30 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
8 MG/KG/DAY	4	37 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	4	38 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	4	39 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	4	40 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	4	41 M	400	400	307	400	400	400	400	400	400	400	400	400	400	400
	4	42 M	190	400	314	400	400	400	140	400	251	400	184	400	382	400
32 MG/KG/DAY	5	49 M	171	337	263	94	151	165	365	400	400	400	400	400	400	400
	5	50 M	0	182	400	400	400	400	400	400	400	400	400	400	400	400
	5	51 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	5	52 M	400	400	400	393	327	400	395	400	400	400	400	400	400	400
	5	53 M	400	400	400	400	400	400	400	97	400	400	400	400	400	308
	5	54 M	400	400	400	400	400	400	400	400	400	400	400	400	400	400

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

INDIVIDUAL FOOD CONSUMPTION VALUES (G)
 FEMALE

DOSE	G R O U P	D O G S E X	#	TEST WEEK														
				-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12
CONTROL	1	07	F	273	250	294	394	203	317	108	153	400	235	400	303	355	245	363
	1	08	F	400	400	400	400	400	400	400	400	400	400	361	400	400	400	291
	1	09	F	278	266	353	264	375	400	400	400	400	400	400	400	400	400	400
	1	10	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	1	11	F	400	400	371	379	400	400	258	400	252	374	315	400	400	400	400
.5 MG/KG/DAY	1	12	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	19	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	20	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	21	F	393	300	361	304	400	400	276	297	313	331	400	400	400	400	400
	2	22	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
2 MG/KG/DAY	2	23	F	400	400	400	400	400	131	321	400	400	400	400	400	400	400	400
	2	24	F	400	400	400	400	400	400	400	359	400	400	354	400	400	400	400
	3	31	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	3	32	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	3	33	F	400	400	400	213	333	400	400	400	400	400	400	400	400	400	400
8 MG/KG/DAY	3	34	F	400	291	272	400	400	400	260	400	400	400	400	400	400	400	380
	3	35	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	3	36	F	230	231	249	237	176	212	400	189	134	352	376	400	390	400	400
	4	43	F	358	361	400	17	287	369	247	400	283	400	398	397	321	399	400
	4	44	F	400	400	400	314	400	320	182	348	400	400	399	372	400	400	400
32 MG/KG/DAY	4	45	F	400	400	400	120	400	222	107	400	400	400	254	400	355	400	273
	4	46	F	375	318	400	170	269	337	2	334	229	400	400	400	308	400	400
	4	47	F	400	400	400	400	400	400	400	400	297	400	400	400	400	400	400
	4	48	F	262	215	216	167	225	331	151	400	341	309	400	400	291	400	400
	5	55	F	400	400	400	90	128	1	292	249	19	190	72	400	235	30	400
	5	56	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	5	57	F	400	400	400	45	400	400	400	400	400	400	400	400	400	400	400
	5	58	F	194	270	250	33	272	400	257	295	258	283	400	400	202	279	357
	5	59	F	400	400	400	26	114	388	4	320	400	400	400	400	184	400	11
	5	60	F	302	293	272	32	62	8	400	82	400	400	400	400	400	400	297

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

INDIVIDUAL FOOD CONSUMPTION VALUES (G)
 FEMALE

DOSE	G R O U P	D O S E	S E X	TEST WEEK															
				13	14	15	16	17	18	19	20	21	22	23	24	25	26		
CONTROL	1	07	F	162	221	196	323	285	272	302	400	400	400	400	400	400	6	400	230
	1	08	F	300	236	370	400	320	375	363	400	337	400	400	400	400	400	400	400
	1	09	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	1	10	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	1	11	F	316	269	400	249	400	400	400	116	250	400	400	400	308	400	165	400
	1	12	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
.5 MG/KG/DAY	2	19	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	20	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	21	F	393	288	400	400	400	400	265	369	400	400	400	400	400	254	400	400
	2	22	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	23	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	2	24	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	112
2 MG/KG/DAY	3	31	F	400	400	400	400	400	400	350	327	400	255	229	400	400	400	400	400
	3	32	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	3	33	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	3	34	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	3	35	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	3	36	F	196	400	400	333	301	294	400	400	400	400	328	173	153	319	400	400
8 MG/KG/DAY	4	43	F	400	400	400	332	400	400	400	400	400	400	400	400	400	400	400	400
	4	44	F	400	400	400	400	262	400	400	400	400	400	400	351	362	400	400	400
	4	45	F	280	272	306	400	400	400	400	400	400	400	400	400	400	400	400	400
	4	46	F	400	259	352	400	400	400	400	400	400	400	400	400	400	400	400	400
	4	47	F	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	4	48	F	400	336	400	378	400	400	400	400	400	400	400	400	400	400	304	400
32 MG/KG/DAY	5	55	F	74	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	5	56	F	400	400	400	38	0	10	11	86	28	400	400	400	400	400	400	400
	5	57	F	340	221	226	341	119	43	400	166	270	274	400	354	400	400	400	400
	5	58	F	400	75	5	1	---	---	---	---	---	---	---	---	---	---	---	---
	5	59	F	308	400	163	400	298	375	400	400	400	400	400	400	400	400	400	400
	5	60	F	400	34	292	400	400	400	400	124	307	400	400	249	314	325	149	400

--- INDICATES NO DATA

OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
INDIVIDUAL HEMATOLOGY VALUES

DOG #	W E S E E K X	HEMATOCRIT (%)	HEMOGLOBIN (G/DL)	METHEMOGLOBIN (G/DL)	MCV (UM 3)	MCH (UUG)	MCHC (G/DL)	RBC (10**6/CUMM)	WBC (10**3/CUMM)	RETICULOCYTES (% RBC)
1	3	45.8	15.6	0.0	70.0	23.9	34.6	6.6	19.0	0.2
1	1	56.6	19.4	---	93.0	32.0	34.8	6.1	21.5	0.1
1	3	44.9	15.2	0.2	68.0	23.4	34.2	6.6	20.6	0.7
1	8	46.0	15.8	0.1	68.0	23.6	34.8	6.8	20.4	0.4
1	12	46.4	16.0	0.1	68.0	23.6	35.0	6.9	21.4	0.6
1	17	44.2	15.5	0.5	68.0	23.9	35.6	6.6	21.9	0.3
1	22	45.0	15.9	0.1	67.0	23.7	35.8	6.8	26.4	0.2
1	26	45.2	16.1	0.3	66.0	23.6	36.0	6.9	21.0	0.3
2	3	41.3	14.2	0.1	74.0	26.0	35.0	5.5	11.6	0.2
2	1	42.4	14.4	0.3	73.0	24.8	34.2	5.8	10.4	0.2
2	3	41.6	14.2	0.4	72.0	24.8	34.8	5.8	11.5	0.5
2	8	42.6	15.0	0.1	70.0	25.0	36.0	6.1	12.5	0.1
2	12	43.2	14.9	0.0	71.0	24.6	35.1	6.2	12.9	0.2
2	17	40.7	14.4	0.2	68.0	24.7	36.2	6.0	10.0	0.1
2	22	41.0	14.8	0.3	69.0	25.2	36.9	6.0	11.8	0.1
2	26	40.9	14.6	0.3	69.0	25.0	36.3	5.9	10.9	0.0
3	3	42.8	14.9	0.3	66.0	23.0	35.3	6.6	8.6	0.6
3	1	42.7	14.4	0.1	68.0	23.2	34.4	6.3	7.6	0.2
3	3	44.1	15.0	0.1	68.0	23.0	34.4	6.6	10.2	0.5
3	8	43.1	15.2	0.2	65.0	23.1	36.0	6.7	10.4	0.1
3	12	45.5	15.7	0.1	66.0	23.0	35.0	6.9	10.8	0.4
3	17	47.0	16.7	0.1	64.0	23.0	36.2	7.4	10.6	0.1
3	22	44.9	16.1	0.1	65.0	23.4	36.4	7.0	9.9	0.1
3	26	43.4	15.4	0.3	66.0	23.4	35.2	6.7	10.1	0.7
4	3	46.6	16.2	0.1	72.0	25.4	35.4	6.5	8.0	0.7
4	1	46.9	15.8	0.1	70.0	23.4	34.0	6.8	6.6	0.2
4	3	47.5	16.3	0.1	70.0	24.0	34.8	6.9	7.6	0.3
4	8	45.4	15.9	0.1	68.0	23.9	35.6	6.8	7.5	0.2
4	12	45.7	16.2	0.1	68.0	24.2	35.9	6.8	7.0	0.1
4	17	47.0	16.6	0.1	68.0	24.3	36.1	7.0	7.5	0.0
4	22	45.4	16.2	0.3	67.0	24.2	36.4	6.8	8.0	0.1
4	26	45.0	16.3	0.1	68.0	24.5	36.8	6.8	7.4	0.2
5	3	39.5	13.6	0.0	68.0	23.4	34.8	5.9	7.9	0.1
5	1	44.4	14.8	0.2	72.0	24.4	33.9	6.2	9.8	0.2
5	3	43.4	14.8	0.1	69.0	23.8	34.6	6.3	11.4	0.2
5	8	46.4	16.4	0.1	68.0	24.1	36.0	6.9	11.1	0.3
5	12	45.8	16.2	0.1	68.0	24.1	36.0	6.9	12.2	1.0
5	17	48.4	17.0	0.2	68.0	24.2	36.0	7.2	11.5	0.4
5	22	47.4	17.3	0.4	67.0	24.5	36.8	7.1	11.2	0.4
5	26	45.2	16.2	0.3	67.0	24.2	36.4	6.8	12.2	0.5
6	3	38.2	12.9	0.1	68.0	22.8	34.1	5.7	9.4	0.8
6	1	39.4	13.4	0.0	70.0	23.6	34.6	5.7	9.6	1.0
6	3	40.4	13.8	0.1	68.0	23.2	34.5	6.0	9.2	0.9
6	8	42.9	15.0	0.1	66.0	23.1	35.4	6.6	8.4	0.4
6	12	42.7	15.1	0.1	65.0	23.2	36.0	6.6	9.8	0.8
6	17	44.0	15.4	0.3	66.0	23.1	35.6	6.8	9.7	0.3
6	22	43.5	15.6	0.1	64.0	23.2	36.4	6.8	12.6	0.7
6	26	46.1	16.7	0.1	64.0	23.4	36.8	7.3	10.1	0.2

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL HEMATOLOGY VALUES

DOGESEX	PLATELETS (10 ³ +/3/CUMM)	NEUTROPHILS IMMATURE (% WBC)	NEUTROPHILS MATURE (% WBC)	LYMPHOCYTES (% WBC)	EOSINOPHILS (% WBC)	BASOPHILS (% WBC)	MONOCYTES (% WBC)	NRBC (% WBC)	CLOTTING TIME (MIN)	PROTHROMBIN TIME (SEC)
1 - 3 M	195.0	0.0	57.0	33.0	10.0	0.0	0.0	0.0	4.5	15.2
1 - 1 M	425.0	1.0	73.0	22.0	4.0	0.0	0.0	0.0	3.0	6.2
1 - 3 M	215.0	0.0	64.0	25.0	11.0	0.0	0.0	0.0	5.5	6.4
1 - 8 M	220.0	0.0	70.0	18.0	8.0	0.0	4.0	0.0	5.5	7.2
1 - 12 M	340.0	0.0	78.0	17.0	5.0	0.0	0.0	3.0	7.0	6.9
1 - 17 M	240.0	0.0	68.0	23.0	9.0	0.0	0.0	0.0	5.0	7.4
1 - 22 M	275.0	1.0	74.0	15.0	8.0	0.0	2.0	0.0	5.0	6.9
1 - 26 M	410.0	1.0	65.0	23.0	11.0	0.0	0.0	0.0	6.0	7.4
2 - 3 M	620.0	0.0	52.0	39.0	7.0	0.0	2.0	0.0	6.0	6.6
2 - 1 M	505.0	0.0	57.0	30.0	13.0	0.0	0.0	3.0	9.0	6.4
2 - 3 M	410.0	1.0	47.0	39.0	13.0	0.0	0.0	0.0	2.5	6.4
2 - 8 M	340.0	1.0	45.0	36.0	18.0	0.0	0.0	1.0	1.5	6.4
2 - 12 M	175.0	0.0	58.0	34.0	7.0	0.0	0.0	0.0	4.0	6.8
2 - 17 M	330.0	0.0	60.0	35.0	5.0	0.0	0.0	0.0	7.0	6.9
2 - 22 M	280.0	1.0	47.0	45.0	5.0	0.0	2.0	0.0	6.5	7.1
2 - 26 M	385.0	3.0	61.0	32.0	4.0	0.0	0.0	0.0	2.5	6.4
3 - 3 M	445.0	0.0	70.0	28.0	2.0	0.0	0.0	0.0	8.0	6.4
3 - 1 M	375.0	0.0	71.0	21.0	8.0	0.0	0.0	1.0	4.5	6.4
3 - 3 M	305.0	0.0	66.0	25.0	9.0	0.0	0.0	0.0	2.5	6.4
3 - 8 M	340.0	0.0	62.0	24.0	14.0	0.0	0.0	0.0	2.0	6.4
3 - 12 M	440.0	0.0	70.0	22.0	7.0	0.0	1.0	0.0	2.5	6.9
3 - 17 M	230.0	3.0	69.0	19.0	8.0	0.0	1.0	1.0	6.5	6.9
3 - 22 M	360.0	2.0	58.0	30.0	10.0	0.0	0.0	0.0	6.0	7.4
3 - 26 M	295.0	4.0	66.0	20.0	10.0	0.0	0.0	0.0	1.0	6.6
4 - 3 M	165.0	0.0	33.0	51.0	13.0	0.0	3.0	0.0	3.5	18.2
4 - 1 M	385.0	5.0	46.0	45.0	4.0	0.0	0.0	0.0	3.5	6.9
4 - 3 M	215.0	0.0	52.0	38.0	9.0	0.0	1.0	0.0	5.0	6.4
4 - 8 M	235.0	0.0	54.0	39.0	7.0	0.0	2.0	0.0	6.0	6.9
4 - 12 M	200.0	1.0	54.0	42.0	3.0	0.0	0.0	0.0	5.5	6.9
4 - 17 M	195.0	2.0	62.0	35.0	0.0	0.0	1.0	0.0	5.5	7.4
4 - 22 M	210.0	3.0	58.0	38.0	1.0	0.0	0.0	0.0	5.5	7.3
4 - 26 M	245.0	0.0	58.0	37.0	5.0	0.0	0.0	0.0	1.5	7.9
5 - 3 M	520.0	0.0	52.0	42.0	5.0	0.0	1.0	0.0	5.5	7.4
5 - 1 M	435.0	0.0	53.0	42.0	4.0	0.0	1.0	0.0	6.5	6.9
5 - 3 M	435.0	1.0	53.0	44.0	2.0	0.0	0.0	0.0	6.5	6.6
5 - 8 M	460.0	0.0	64.0	24.0	10.0	0.0	1.0	0.0	5.0	7.2
5 - 12 M	405.0	0.0	70.0	21.0	9.0	0.0	0.0	0.0	6.0	6.9
5 - 17 M	350.0	3.0	68.0	26.0	2.0	0.0	1.0	0.0	6.0	7.4
5 - 22 M	330.0	2.0	71.0	21.0	5.0	0.0	0.0	0.0	5.5	6.9
5 - 26 M	280.0	2.0	76.0	16.0	6.0	0.0	0.0	0.0	2.5	7.9
6 - 3 M	375.0	0.0	62.0	32.0	1.0	0.0	5.0	0.0	4.0	6.9
6 - 1 M	325.0	0.0	66.0	33.0	1.0	0.0	0.0	1.0	2.0	6.4
6 - 3 M	290.0	1.0	77.0	19.0	3.0	0.0	0.0	0.0	2.0	6.4
6 - 8 M	330.0	1.0	62.0	30.0	7.0	0.0	0.0	0.0	3.0	6.9
6 - 12 M	505.0	1.0	68.0	27.0	4.0	0.0	0.0	0.0	7.0	6.6
6 - 17 M	330.0	5.0	59.0	21.0	15.0	0.0	0.0	1.0	8.0	7.4
6 - 22 M	350.0	1.0	69.0	26.0	3.0	0.0	1.0	1.0	7.0	6.6
6 - 26 M	375.0	5.0	73.0	21.0	1.0	0.0	0.0	0.0	6.0	7.4

--- INDICATES NO DATA

INDIVIDUAL HEMATOLOGY VALUES

D O	W G	S E	S E	X	HEMATOCRIT (%)	HEMOGLOBIN (G/DL)	METHEMOGLOBIN (G/DL)	MCV (UM 3)	MCH (UUG)	MCHC (G/DL)	RBC (10**6/CUMM)	WBC (10**3/CUMM)	RETICULOCYTES (% RBC)
7	-3	F			55.0	19.4	---	72.0	25.4	35.6	7.7	8.2	0.4
7	-1	F			51.4	18.6	0.1	71.0	25.6	36.2	7.4	8.2	0.7
7	3	F			53.7	19.2	0.3	69.0	24.6	36.0	7.9	9.5	2.3
7	8	F			54.8	20.0	0.1	68.0	24.8	37.0	8.2	10.1	0.1
7	12	F			49.4	18.0	0.1	66.0	24.4	36.9	7.5	9.6	0.8
7	17	F			50.2	18.0	0.5	69.0	24.8	36.5	7.4	9.4	0.4
7	22	F			55.2	20.3	0.3	69.0	25.4	37.4	8.1	9.8	0.5
7	26	F			51.4	18.8	---	68.0	25.0	37.2	7.6	9.0	0.2
8	-3	F			42.5	14.6	0.3	70.0	24.0	34.6	6.1	12.7	0.1
8	-1	F			39.6	13.6	0.0	71.0	24.8	34.8	5.6	13.0	0.4
8	3	F			44.0	15.2	0.1	71.0	24.7	35.1	6.2	11.8	0.2
8	8	F			45.8	16.0	0.3	70.0	24.5	35.2	6.6	13.0	0.3
8	12	F			43.2	15.0	0.0	70.0	24.7	35.5	6.2	13.1	0.1
8	17	F			39.8	13.9	0.1	69.0	24.4	35.6	5.8	9.1	0.0
8	22	F			43.6	15.4	0.3	70.0	25.0	36.0	6.2	15.8	0.3
8	26	F			45.7	16.2	0.2	70.0	25.0	36.0	6.6	9.6	0.2
9	-3	F			39.8	13.8	0.1	69.0	24.0	35.2	5.8	7.1	0.3
9	-1	F			42.2	14.4	0.1	70.0	24.1	34.6	6.1	8.0	0.1
9	3	F			47.2	16.4	0.0	69.0	24.2	35.4	6.9	8.7	0.9
9	8	F			43.2	15.4	0.0	68.0	24.2	36.1	6.5	8.4	0.4
9	12	F			43.7	15.3	0.0	68.0	24.1	35.6	6.5	11.6	0.3
9	17	F			44.4	15.9	0.1	67.0	24.2	36.4	6.7	7.7	0.0
9	22	F			44.2	16.0	0.3	67.0	24.4	36.6	6.7	11.7	0.3
9	26	F			46.8	16.7	0.3	68.0	24.3	36.0	6.9	8.6	0.4
10	-3	F			42.2	14.3	0.3	68.0	23.2	34.2	6.2	8.6	0.3
10	-1	F			43.4	14.7	0.1	68.0	23.2	34.3	6.4	12.0	0.2
10	3	F			47.0	16.2	0.0	69.0	23.8	34.9	6.9	9.2	0.7
10	8	F			46.8	16.4	0.1	67.0	23.6	35.4	7.0	11.6	0.3
10	12	F			45.9	16.0	0.1	67.0	23.6	35.4	6.9	12.6	0.2
10	17	F			47.7	16.8	0.4	68.0	24.4	35.8	7.0	12.0	0.0
10	22	F			40.8	14.8	0.0	65.0	23.8	36.7	6.3	8.6	0.0
10	26	F			42.0	15.2	0.2	66.0	23.8	36.8	6.5	11.7	1.1
11	-3	F			41.4	14.1	0.4	72.0	24.6	34.5	5.8	10.6	0.6
11	-1	F			45.1	15.6	0.1	70.0	24.4	35.0	6.5	8.2	0.8
11	3	F			52.2	18.3	0.1	72.0	25.2	35.5	7.4	10.0	1.5
11	8	F			50.4	17.6	0.1	71.0	25.0	35.6	7.2	9.6	0.3
11	12	F			51.2	18.2	0.2	70.0	25.1	36.0	7.3	9.5	0.3
11	17	F			52.4	18.4	0.4	70.0	24.8	35.7	7.5	11.6	0.3
11	22	F			47.6	17.4	0.1	70.0	25.5	37.0	6.9	8.5	0.0
11	26	F			46.8	17.2	0.2	68.0	25.3	37.3	6.9	10.1	0.1
12	-3	F			45.8	16.8	0.1	68.0	25.1	37.2	6.8	10.4	---
12	-1	F			45.9	15.8	0.3	70.0	24.3	35.0	6.6	8.4	0.2
12	3	F			44.8	15.4	0.0	70.0	24.2	34.6	6.4	11.9	0.4
12	8	F			45.0	15.8	0.2	70.0	24.5	35.4	6.5	8.0	0.4
12	12	F			45.2	16.0	0.0	70.0	24.8	35.9	6.5	6.4	0.2
12	17	F			48.2	17.2	0.3	68.0	24.6	36.4	7.1	5.6	0.1
12	22	F			52.0	19.0	0.1	67.0	24.6	37.2	7.9	11.7	0.1
12	26	F			46.4	16.5	0.1	68.0	24.2	36.0	6.9	8.2	0.2

--- INDICATES NO DATA

INDIVIDUAL HEMATOLOGY VALUES

D O G #	W E E K	S E X	PLATELETS (10**3/CUMM)	NEUTROPHILS IMMATURE (% WBC)	NEUTROPHILS MATURE (% WBC)	LYMPHOCYTES (% WBC)	EOSINOPHILS (% WBC)	BASOPHILS (% WBC)	MONOCYTES (% WBC)	NRBC (% WBC)	CLOTTING TIME (MIN)	PROTHROMBIN TIME (SEC)
7	-3	F	340.0	0.0	56.0	42.0	2.0	0.0	0.0	0.0	4.0	6.9
7	-1	F	240.0	1.0	63.0	35.0	1.0	0.0	0.0	0.0	6.0	6.6
7	3	F	180.0	0.0	54.0	46.0	0.0	0.0	0.0	1.0	1.5	8.2
7	8	F	290.0	0.0	60.0	36.0	4.0	0.0	0.0	1.0	2.0	7.4
7	12	F	425.0	0.0	68.0	31.0	1.0	0.0	0.0	0.0	1.0	6.9
7	17	F	320.0	2.0	61.0	31.0	5.0	0.0	1.0	0.0	1.0	7.3
7	22	F	260.0	0.0	66.0	32.0	2.0	0.0	0.0	0.0	3.5	8.9
7	26	F	380.0	1.0	70.0	28.0	1.0	0.0	0.0	0.0	2.5	10.6
8	-3	F	300.0	0.0	53.0	41.0	4.0	0.0	0.0	0.0	1.5	6.4
8	-1	F	305.0	0.0	66.0	30.0	4.0	0.0	0.0	0.0	5.0	6.6
8	3	F	230.0	0.0	53.0	41.0	6.0	0.0	0.0	1.0	3.0	7.2
8	8	F	265.0	0.0	60.0	28.0	12.0	0.0	0.0	0.0	5.0	6.9
8	12	F	485.0	0.0	54.0	30.0	16.0	0.0	0.0	1.0	1.5	7.4
8	17	F	255.0	0.0	44.0	36.0	20.0	0.0	0.0	0.0	5.0	6.9
8	22	F	335.0	2.0	55.0	30.0	10.0	0.0	3.0	0.0	1.5	8.0
8	26	F	335.0	2.0	59.0	34.0	5.0	0.0	0.0	0.0	2.0	7.4
9	-3	F	365.0	0.0	63.0	33.0	2.0	0.0	2.0	0.0	4.0	6.4
9	-1	F	340.0	0.0	72.0	27.0	1.0	0.0	0.0	0.0	2.5	6.4
9	3	F	290.0	0.0	73.0	27.0	0.0	0.0	0.0	1.0	4.5	6.4
9	8	F	460.0	0.0	79.0	20.0	1.0	0.0	0.0	0.0	6.0	6.8
9	12	F	385.0	0.0	86.0	13.0	1.0	0.0	0.0	0.0	4.5	6.9
9	17	F	430.0	4.0	80.0	15.0	0.0	0.0	1.0	0.0	5.0	7.4
9	22	F	360.0	2.0	90.0	8.0	0.0	0.0	0.0	0.0	1.0	6.2
9	26	F	605.0	2.0	82.0	16.0	0.0	0.0	0.0	0.0	6.5	6.9
10	-3	F	445.0	0.0	61.0	34.0	3.0	0.0	2.0	0.0	5.5	6.4
10	-1	F	365.0	0.0	76.0	20.0	4.0	0.0	0.0	0.0	8.5	6.4
10	3	F	260.0	0.0	60.0	31.0	9.0	0.0	0.0	0.0	6.5	7.2
10	8	F	385.0	0.0	66.0	28.0	6.0	0.0	0.0	0.0	9.5	7.0
10	12	F	300.0	3.0	65.0	24.0	7.0	0.0	1.0	0.0	1.0	7.1
10	17	F	370.0	0.0	59.0	33.0	7.0	0.0	1.0	0.0	7.5	16.9
10	22	F	270.0	0.0	62.0	33.0	5.0	0.0	0.0	0.0	3.0	6.6
10	26	F	400.0	3.0	66.0	16.0	14.0	0.0	0.0	2.0	1.5	6.9
11	-3	F	590.0	0.0	60.0	36.0	4.0	0.0	2.0	0.0	3.0	7.9
11	-1	F	380.0	0.0	54.0	36.0	8.0	0.0	0.0	4.0	2.5	7.9
11	3	F	290.0	0.0	64.0	34.0	2.0	0.0	0.0	0.0	3.5	7.8
11	8	F	305.0	0.0	67.0	29.0	4.0	0.0	0.0	0.0	3.0	7.4
11	12	F	215.0	0.0	69.0	29.0	3.0	0.0	3.0	0.0	4.5	6.9
11	17	F	265.0	0.0	71.0	23.0	3.0	0.0	1.0	0.0	2.0	7.4
11	22	F	235.0	0.0	56.0	41.0	2.0	0.0	0.0	0.0	4.0	6.9
11	26	F	510.0	2.0	69.0	26.0	6.0	0.0	3.0	0.0	5.0	6.6
12	-3	F	255.0	1.0	50.0	43.0	2.0	0.0	0.0	0.0	4.5	6.4
12	-1	F	245.0	1.0	58.0	36.0	2.0	0.0	0.0	0.0	5.5	6.9
12	3	F	270.0	1.0	63.0	26.0	10.0	0.0	0.0	0.0	3.5	7.2
12	8	F	215.0	0.0	55.0	38.0	7.0	0.0	0.0	0.0	5.0	6.9
12	12	F	250.0	0.0	53.0	43.0	4.0	0.0	0.0	0.0	5.0	7.4
12	17	F	265.0	0.0	56.0	42.0	2.0	0.0	0.0	0.0	1.5	6.4
12	22	F	235.0	0.0	45.0	52.0	3.0	0.0	0.0	0.0	1.0	6.4
12	26	F	350.0	1.0	64.0	31.0	4.0	0.0	0.0	1.0	1.0	6.4

--- INDICATES NO DATA

--- INDICATES NO DATA

DOUG #	W E E K	S E X	PLATELETS (10 ⁹ •/3/CUMM)	NEUTROPHILS IMMATURE (% WBC)	NEUTROPHILS MATURE (% WBC)	LYMPHOCYTES (% WBC)	EOSINOPHILS (% WBC)	BASOPHILS (% WBC)	MONOCYTES (% WBC)	NRBC (% WBC)	CLOTTING TIME (MIN)	PROTHROMBIN TIME (SEC)
13	-3	M	305.0	0.0	55.0	45.0	0.0	0.0	0.0	0.0	3.0	7.9
13	-1	M	315.0	1.0	67.0	28.0	4.0	0.0	0.0	0.0	2.0	6.4
13	3	M	330.0	4.0	65.0	30.0	1.0	0.0	0.0	0.0	1.5	6.4
13	8	M	375.0	1.0	64.0	31.0	4.0	0.0	0.0	0.0	4.0	6.9
13	12	M	305.0	2.0	76.0	22.0	0.0	0.0	0.0	0.0	4.0	6.9
13	17	M	305.0	5.0	70.0	20.0	5.0	0.0	0.0	0.0	5.5	7.4
13	22	M	420.0	3.0	57.0	34.0	5.0	0.0	1.0	0.0	5.0	6.9
13	26	M	215.0	2.0	90.0	16.0	2.0	0.0	0.0	0.0	5.0	6.4
14	-3	M	365.0	0.0	66.0	28.0	6.0	0.0	0.0	0.0	---	7.4
14	-1	M	335.0	0.0	61.0	36.0	3.0	0.0	0.0	2.0	---	6.4
14	3	M	200.0	1.0	62.0	27.0	8.0	0.0	2.0	1.0	1.5	6.4
14	8	M	350.0	1.0	69.0	27.0	2.0	0.0	1.0	1.0	6.0	6.9
14	12	M	555.0	0.0	72.0	25.0	3.0	0.0	0.0	0.0	1.5	6.9
14	17	M	380.0	1.0	64.0	24.0	11.0	0.0	0.0	0.0	5.0	6.8
14	22	M	285.0	1.0	70.0	17.0	11.0	0.0	1.0	0.0	1.5	6.9
14	26	M	280.0	3.0	64.0	22.0	11.0	0.0	0.0	0.0	2.0	6.4
15	-3	M	405.0	0.0	55.0	38.0	5.0	0.0	2.0	2.0	2.0	8.4
15	-1	M	485.0	1.0	45.0	43.0	11.0	0.0	0.0	0.0	1.5	6.4
15	3	M	280.0	1.0	49.0	36.0	14.0	0.0	0.0	1.0	2.0	6.6
15	8	M	420.0	0.0	50.0	36.0	14.0	0.0	0.0	0.0	2.0	6.9
15	12	M	365.0	1.0	58.0	35.0	6.0	0.0	0.0	0.0	2.5	6.4
15	17	M	360.0	---	---	---	---	---	---	---	2.0	6.8
15	22	M	310.0	2.0	59.0	32.0	7.0	0.0	0.0	0.0	1.5	6.9
15	26	M	500.0	0.0	61.0	31.0	6.0	0.0	2.0	0.0	5.0	6.6
16	-3	M	360.0	0.0	70.0	24.0	3.0	0.0	3.0	0.0	5.5	8.4
16	-1	M	410.0	2.0	64.0	28.0	5.0	0.0	1.0	0.0	11.0	6.6
16	3	M	375.0	0.0	55.0	33.0	12.0	0.0	0.0	0.0	2.5	6.4
16	8	M	505.0	0.0	63.0	23.0	14.0	0.0	0.0	0.0	1.5	6.9
16	12	M	530.0	0.0	59.0	33.0	7.0	0.0	1.0	0.0	4.5	6.9
16	17	M	360.0	4.0	74.0	14.0	8.0	0.0	0.0	0.0	7.5	6.9
16	22	M	455.0	1.0	67.0	19.0	13.0	0.0	0.0	0.0	3.0	6.9
16	26	M	365.0	7.0	58.0	27.0	8.0	0.0	0.0	0.0	3.5	6.9
17	-3	M	250.0	0.0	75.0	19.0	4.0	0.0	2.0	3.0	4.5	28.0
17	-1	M	---	0.0	67.0	32.0	1.0	0.0	0.0	0.0	7.5	17.6
17	3	M	215.0	0.0	79.0	15.0	5.0	0.0	1.0	0.0	5.0	11.6
17	8	M	170.0	0.0	65.0	30.0	5.0	0.0	0.0	0.0	6.0	12.9
17	12	M	255.0	0.0	71.0	24.0	5.0	0.0	0.0	0.0	7.5	13.6
17	17	M	240.0	1.0	82.0	10.0	6.0	0.0	1.0	0.0	5.0	14.1
17	22	M	235.0	4.0	76.0	13.0	5.0	0.0	2.0	0.0	5.0	17.2
17	26	M	255.0	2.0	72.0	18.0	8.0	0.0	0.0	0.0	3.0	14.9
18	-3	M	490.0	0.0	56.0	39.0	5.0	0.0	0.0	0.0	2.5	6.4
18	-1	M	270.0	0.0	77.0	19.0	4.0	0.0	0.0	1.0	10.5	6.4
18	3	M	355.0	2.0	56.0	25.0	17.0	0.0	0.0	1.0	7.5	6.4
18	8	M	110.0	0.0	64.0	26.0	9.0	0.0	1.0	0.0	3.5	6.9
18	12	M	230.0	0.0	77.0	19.0	4.0	0.0	0.0	0.0	1.5	6.9
18	17	M	280.0	1.0	70.0	20.0	7.0	0.0	2.0	0.0	2.5	7.4
18	22	M	245.0	1.0	63.0	29.0	7.0	0.0	0.0	2.0	6.0	7.5
18	26	M	280.0	3.0	69.0	26.0	2.0	0.0	0.0	1.0	2.0	7.4

--- INDICATES NO DATA

U	E	S	MEMULUBIN (%)	MEMULUBIN (G/DL)	MEMULUBIN REINTERMULUBIN (G/DL)	PLV (UM 3)	PLT (UUG)	(G/DL)	(10**6/CUMM)	(10**3/CUMM)	(% RBC)
19	-3	F	46.0	15.9	0.1	68.0	23.7	35.0	6.8	9.3	0.5
19	-1	F	41.4	14.0	0.0	68.0	23.2	34.4	6.1	9.4	0.2
19	3	F	44.0	15.0	0.5	70.0	24.1	34.7	6.3	8.0	1.0
19	8	F	48.2	16.8	0.1	69.0	24.0	35.2	7.1	9.1	0.7
19	12	F	47.2	16.6	0.1	68.0	24.0	35.7	7.0	9.6	0.1
19	17	F	49.2	17.6	0.2	68.0	24.4	36.3	7.4	8.9	0.1
19	22	F	49.1	17.6	0.2	68.0	24.4	36.4	7.3	10.6	0.4
19	26	F	49.2	17.5	0.3	68.0	24.0	36.2	7.4	10.0	0.0
20	-3	F	44.5	15.3	0.3	71.0	24.6	34.8	6.3	8.4	0.2
20	-1	F	45.8	15.6	0.2	72.0	24.6	34.4	6.4	9.4	0.1
20	3	F	46.8	16.2	0.0	72.0	24.8	34.9	6.6	11.1	0.2
20	8	F	47.2	16.6	0.1	71.0	25.0	35.6	6.7	13.4	0.2
20	12	F	46.2	16.3	0.0	70.0	25.0	35.8	6.6	8.4	0.1
20	17	F	46.0	16.3	0.3	71.0	25.3	36.0	6.5	11.2	0.1
20	22	F	46.6	16.6	0.1	71.0	25.4	36.2	6.6	10.2	0.7
21	-3	F	51.3	18.4	0.3	67.0	25.0	36.3	7.4	9.2	0.1
21	-1	F	43.9	14.9	0.3	68.0	23.2	35.0	6.5	9.0	0.9
21	3	F	45.6	16.3	0.2	68.0	24.4	34.4	6.5	10.0	0.5
21	8	F	43.5	15.3	0.2	66.0	23.6	36.0	6.8	10.2	1.1
21	12	F	43.2	15.1	0.0	65.0	23.0	35.7	6.6	13.6	0.7
21	17	F	43.3	15.2	0.3	66.0	23.1	35.6	6.7	11.6	0.3
21	22	F	46.6	16.8	0.3	65.0	23.6	36.4	7.2	14.2	0.0
21	26	F	47.9	17.2	0.3	65.0	23.3	36.4	7.5	9.1	0.1
22	-3	F	45.1	15.7	0.3	68.0	23.9	35.3	6.7	11.2	0.2
22	-1	F	44.9	15.3	0.1	72.0	24.4	34.5	6.7	10.2	0.2
22	3	F	44.6	15.4	0.0	71.0	24.6	34.5	6.3	8.6	1.1
22	8	F	43.4	15.0	0.2	70.0	24.5	35.0	6.4	9.0	1.0
22	12	F	43.4	15.4	0.0	68.0	24.5	35.2	6.2	9.2	0.4
22	17	F	42.6	15.0	0.1	69.0	24.4	36.0	6.4	10.4	0.5
22	22	F	40.4	14.5	0.4	68.0	24.4	35.8	6.2	11.5	0.3
22	26	F	47.8	17.0	0.2	68.0	24.4	36.4	6.0	8.0	0.1
23	-3	F	43.0	14.6	0.1	72.0	24.7	36.2	7.1	10.7	0.3
23	-1	F	40.1	13.4	0.2	72.0	24.2	34.3	6.0	11.2	0.2
23	3	F	42.2	14.2	0.0	73.0	24.5	34.0	5.6	10.6	0.0
23	8	F	42.0	14.6	0.1	70.0	24.4	34.0	5.9	10.4	0.2
23	12	F	42.2	14.7	0.1	70.0	24.4	35.2	6.1	13.2	0.3
23	17	F	42.6	14.6	0.3	70.0	24.4	35.4	6.1	13.6	-
23	22	F	41.7	14.7	0.4	68.0	24.2	34.8	6.1	18.4	0.0
23	26	F	44.0	15.5	0.0	68.0	24.0	35.8	6.2	11.0	0.2
24	-3	F	45.1	15.4	0.3	68.0	23.6	35.8	6.5	14.2	0.5
24	-1	F	48.6	16.8	0.1	71.0	24.6	34.8	6.7	7.6	0.2
24	3	F	48.5	16.8	0.1	70.0	24.2	35.1	7.0	13.9	0.5
24	8	F	50.6	17.7	0.3	68.0	23.9	35.2	7.1	9.4	0.5
24	12	F	46.9	16.4	0.0	68.0	23.8	35.4	7.5	11.2	0.1
24	17	F	47.0	16.7	0.2	67.0	23.8	36.2	7.0	11.8	0.2
24	22	F	43.2	15.4	0.4	66.0	23.6	36.2	7.1	13.7	0.0
24	26	F	45.3	16.2	0.1	66.0	23.8	36.2	6.6	12.3	0.0
									6.9	12.3	0.3

--- INDICATES NO DATA

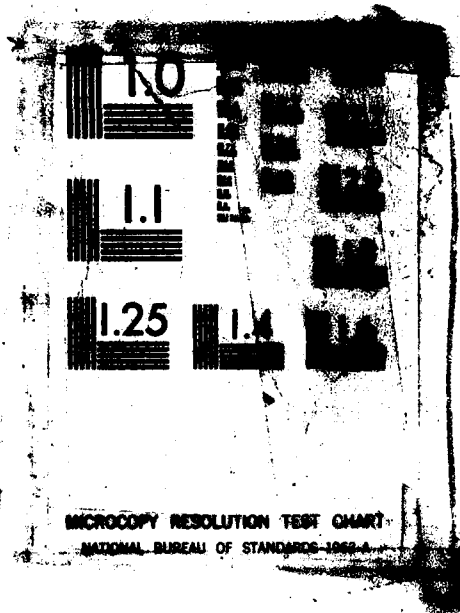
DETERMINATION OF THE CHRONIC MAMMALIAN TOXICOLOGICAL
EFFECTS OF TNT TWENT. (U) IIT RESEARCH INST CHICAGO IL
B S LEVINE ET AL. JUN 83 DAMD17-79-C-9120

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL HEMATOLOGY VALUES

DOSE GROUP	WEEK	SEX	HEMATOCRIT (%)	HEMOGLOBIN (G/DL)	METHEMOGLOBIN (G/DL)	MCV (UM 3)	MCH (UUG)	MCHC (G/DL)	RBC (10**6/CUMM)	WBC (10**3/CUMM)	RETICULOCYTES (% RBC)
25	-3	M	40.6	13.8	0.2	72.0	24.8	34.6	5.7	9.4	0.1
25	-1	M	41.2	14.2	0.1	71.0	24.4	34.6	5.8	9.3	0.7
25	3	M	39.8	13.6	0.0	72.0	24.6	34.6	5.6	10.0	0.7
25	8	M	37.9	12.6	0.1	70.0	24.0	34.0	5.4	8.6	1.3
25	12	M	37.8	13.0	0.1	71.0	24.8	35.0	5.3	8.9	0.3
25	17	M	42.2	14.9	0.2	70.0	25.3	35.8	6.0	10.8	0.3
25	22	M	40.6	14.4	0.3	70.0	25.0	36.0	5.8	7.8	1.1
25	26	M	40.0	14.3	0.5	70.0	25.1	36.2	5.8	8.6	0.6
26	-3	M	39.8	13.6	0.1	68.0	23.4	34.7	5.9	7.8	0.1
26	-1	M	39.4	13.0	0.1	68.0	22.6	33.6	5.9	8.5	0.1
26	3	M	39.4	13.2	0.1	68.0	23.0	34.0	5.8	18.2	0.6
26	8	M	39.8	13.6	0.1	66.0	23.0	34.9	6.1	11.0	0.8
26	12	M	39.8	13.8	0.0	66.0	23.0	35.2	6.1	10.0	0.1
26	17	M	44.7	15.6	0.2	68.0	23.8	35.6	6.7	11.6	0.1
26	22	M	42.2	15.0	0.1	65.0	23.2	35.9	6.6	8.6	0.2
26	26	M	43.2	15.4	0.3	65.0	23.4	36.0	6.7	8.7	0.2
27	-3	M	39.5	13.4	0.3	64.0	21.9	34.4	6.2	11.1	0.4
27	-1	M	39.2	13.4	0.2	64.0	22.0	34.4	6.2	13.1	1.4
27	3	M	41.1	14.0	0.4	65.0	22.4	34.6	6.3	13.2	0.7
27	8	M	39.6	13.6	0.1	64.0	22.2	34.8	6.2	16.4	1.5
27	12	M	43.5	15.0	0.2	64.0	22.4	35.0	6.9	12.6	0.9
27	17	M	42.9	14.8	0.3	64.0	22.1	35.0	6.8	13.8	0.2
27	22	M	45.2	15.9	0.4	64.0	22.7	35.8	7.1	14.2	0.6
27	26	M	43.1	15.3	0.3	64.0	23.0	36.0	6.8	13.6	0.8
28	-3	M	48.4	16.8	0.2	70.0	24.1	35.1	7.1	11.1	0.6
28	-1	M	46.8	16.1	0.2	70.0	24.0	34.8	6.8	10.4	0.2
28	3	M	45.2	15.4	0.4	69.0	23.4	34.4	6.6	11.2	0.3
28	8	M	45.4	15.7	0.1	69.0	24.0	35.1	6.7	13.1	0.5
28	12	M	44.8	15.4	0.1	68.0	23.7	34.8	6.6	10.7	0.3
28	17	M	45.7	15.5	0.3	68.0	23.4	35.6	6.7	10.6	0.2
28	22	M	46.8	16.2	0.3	68.0	24.1	36.0	6.8	11.6	0.2
28	26	M	43.8	14.9	0.1	70.0	23.8	34.4	6.4	9.2	0.1
29	-1	M	42.8	14.8	0.0	70.0	24.2	34.8	6.2	9.9	0.2
29	3	M	43.6	14.8	0.0	70.0	23.8	34.4	6.3	9.7	0.7
29	8	M	45.1	15.7	0.1	68.0	24.0	35.4	6.7	13.4	0.2
29	12	M	45.4	15.4	0.1	70.0	23.7	34.6	6.6	10.8	0.3
29	17	M	44.0	15.5	0.3	68.0	23.8	35.8	6.6	8.8	0.1
29	22	M	43.0	15.2	0.4	67.0	23.9	36.0	6.5	12.6	0.3
29	26	M	42.5	15.2	0.2	69.0	24.6	36.2	6.3	11.4	0.1
30	-3	M	42.5	14.6	0.2	62.0	21.2	35.0	7.0	11.6	0.2
30	-1	M	43.3	14.8	0.2	63.0	21.4	34.5	7.0	10.0	0.3
30	3	M	43.2	14.6	0.2	62.0	21.2	34.4	7.0	9.7	0.8
30	8	M	41.4	14.3	0.2	62.0	21.7	35.1	6.7	11.7	1.8
30	12	M	42.4	14.4	0.2	64.0	22.0	34.6	6.7	11.6	0.4
30	17	M	45.0	15.6	0.4	64.0	22.2	35.3	7.1	11.0	0.3
30	22	M	44.8	15.6	0.4	64.0	22.4	35.2	7.0	11.7	0.3
30	26	M	41.4	14.4	0.3	65.0	22.6	35.2	6.4	10.8	0.5

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL HEMATOLOGY VALUES

D O G #	W E E K	S E X	PLATELETS (10 ³ /CUMM)	NEUTROPHILS IMMATURE (% WBC)	NEUTROPHILS MATURE (% WBC)	LYMPHOCYTES (% WBC)	EOSINOPHILS (% WBC)	BASOPHILS (% WBC)	MONOCYTES (% WBC)	NRBC (% WBC)	CLOTTING TIME (MIN)	PROTHROMBIN TIME (SEC)
25	-3	M	285.0	0.0	59.0	35.0	0.0	0.0	6.0	0.0	5.5	6.4
25	-1	M	410.0	0.0	67.0	31.0	2.0	0.0	0.0	1.0	3.0	6.4
25	8	M	490.0	2.0	70.0	26.0	2.0	0.0	0.0	0.0	4.0	6.4
25	13	M	320.0	0.0	77.0	22.0	1.0	0.0	0.0	0.0	4.0	6.9
25	17	M	395.0	0.0	68.0	30.0	2.0	0.0	0.0	0.0	5.0	6.9
25	17	M	270.0	5.0	78.0	17.0	0.0	0.0	0.0	0.0	1.5	6.9
25	22	M	355.0	0.0	70.0	30.0	0.0	0.0	0.0	0.0	3.5	7.6
25	26	M	460.0	3.0	80.0	16.0	1.0	0.0	0.0	0.0	9.5	19.6
26	-3	M	515.0	2.0	50.0	39.0	3.0	0.0	0.0	0.0	9.5	6.4
26	-1	M	400.0	2.0	58.0	35.0	2.0	0.0	0.0	0.0	3.0	6.4
26	3	M	475.0	1.0	76.0	21.0	2.0	0.0	0.0	0.0	1.5	6.9
26	8	M	480.0	0.0	69.0	29.0	0.0	0.0	0.0	0.0	2.5	6.9
26	12	M	435.0	0.0	70.0	30.0	0.0	0.0	0.0	0.0	1.5	7.5
26	17	M	345.0	0.0	60.0	34.0	6.0	0.0	0.0	0.0	2.0	7.4
26	22	M	405.0	0.0	62.0	31.0	7.0	0.0	0.0	0.0	3.0	7.9
26	26	M	590.0	4.0	75.0	16.0	5.0	0.0	0.0	0.0	4.0	21.9
27	-3	M	445.0	0.0	63.0	30.0	4.0	0.0	0.0	0.0	4.5	7.2
27	-1	M	395.0	2.0	48.0	39.0	10.0	0.0	0.0	0.0	2.5	7.2
27	3	M	410.0	0.0	74.0	24.0	2.0	0.0	0.0	0.0	7.0	7.9
27	8	M	490.0	0.0	80.0	18.0	2.0	0.0	0.0	0.0	3.5	7.9
27	12	M	570.0	0.0	78.0	12.0	8.0	0.0	0.0	0.0	4.0	7.9
27	17	M	285.0	4.0	72.0	17.0	7.0	0.0	0.0	0.0	3.0	7.9
27	22	M	525.0	1.0	70.0	21.0	11.0	0.0	0.0	0.0	6.0	7.4
27	26	M	425.0	3.0	62.0	24.0	8.0	0.0	0.0	0.0	1.5	6.9
28	-3	M	345.0	0.0	62.0	27.0	13.0	0.0	0.0	0.0	2.0	6.4
28	-1	M	400.0	1.0	42.0	43.0	4.0	0.0	0.0	0.0	5.0	6.9
28	3	M	350.0	0.0	64.0	32.0	5.0	0.0	0.0	0.0	2.5	6.9
28	8	M	305.0	0.0	74.0	21.0	7.0	0.0	0.0	0.0	2.0	7.4
28	12	M	315.0	2.0	57.0	34.0	5.0	0.0	0.0	0.0	2.0	7.4
28	17	M	465.0	1.0	64.0	25.0	9.0	0.0	0.0	0.0	3.0	13.2
28	22	M	430.0	4.0	62.0	26.0	8.0	0.0	0.0	0.0	1.0	6.4
28	26	M	370.0	1.0	56.0	40.0	1.0	0.0	0.0	0.0	3.0	6.6
29	-1	M	450.0	1.0	52.0	42.0	5.0	0.0	0.0	0.0	2.0	5.9
29	3	M	445.0	0.0	77.0	22.0	1.0	0.0	0.0	0.0	1.5	7.4
29	8	M	580.0	0.0	46.0	45.0	9.0	0.0	0.0	0.0	3.5	6.9
29	12	M	335.0	0.0	72.0	25.0	3.0	0.0	0.0	0.0	6.0	6.4
29	17	M	275.0	1.0	59.0	36.0	3.0	0.0	0.0	0.0	4.0	7.9
29	22	M	540.0	4.0	61.0	29.0	6.0	0.0	0.0	0.0	1.0	6.9
29	26	M	455.0	2.0	82.0	15.0	1.0	0.0	0.0	0.0	4.5	6.4
30	-3	M	390.0	0.0	57.0	35.0	4.0	0.0	0.0	0.0	---	---
30	-1	M	390.0	0.0	57.0	35.0	8.0	0.0	0.0	0.0	4.0	7.4
30	3	M	365.0	2.0	64.0	28.0	6.0	0.0	0.0	0.0	1.5	7.6
30	8	M	435.0	0.0	63.0	31.0	7.0	0.0	0.0	0.0	0.5	7.4
30	12	M	445.0	1.0	62.0	31.0	4.0	0.0	0.0	0.0	1.5	7.4
30	17	M	325.0	0.0	55.0	39.0	6.0	0.0	0.0	0.0	1.0	8.5
30	22	M	315.0	3.0	65.0	23.0	8.0	0.0	0.0	0.0	1.0	7.6

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL HEMATOLOGY VALUES

DOSE	SEX	HEMATOCRIT (%)	HEMOGLOBIN (G/DL)	METHEMOGLOBIN (G/DL)	MCV (UM 3)	MCH (UUG)	MCHC (G/DL)	RBC (10**6/CUMM)	WBC (10**3/CUMM)	RETICULOCYTES (% RBC)
31-3	F	35.2	12.0	0.0	68.0	23.4	34.4	5.2	8.6	0.9
31-1	F	40.5	13.8	0.0	67.0	23.0	34.4	6.1	8.6	0.3
31-3	F	41.3	14.1	0.4	68.0	23.3	34.6	6.1	15.9	0.7
31-8	F	39.0	13.6	0.3	66.0	23.3	35.2	5.9	9.8	0.7
31-12	F	37.3	12.8	0.3	68.0	23.8	35.1	5.5	10.6	0.8
31-17	F	41.5	14.6	0.3	68.0	24.2	35.8	6.1	9.3	0.1
31-22	F	45.5	16.1	0.2	68.0	24.0	35.9	6.8	9.3	0.2
31-26	F	47.4	16.7	0.3	68.0	24.0	35.8	7.1	10.0	0.4
32-3	F	47.2	16.1	0.2	72.0	24.7	34.5	6.6	11.7	0.6
32-1	F	43.8	15.0	0.3	70.0	24.2	34.6	6.3	11.9	0.5
32-3	F	45.0	15.4	0.2	72.0	24.8	34.6	6.3	13.2	0.8
32-8	F	42.0	14.4	0.2	71.0	24.6	34.6	5.9	12.8	0.7
32-12	F	42.2	14.6	0.0	70.0	24.4	35.4	6.1	12.6	0.7
32-17	F	40.6	14.2	0.1	70.0	24.6	35.8	5.9	12.1	0.9
32-22	F	38.8	13.8	0.3	68.0	24.5	36.0	5.7	9.8	0.5
32-26	F	40.7	14.4	0.3	69.0	24.4	35.7	6.0	11.6	0.6
33-3	F	40.9	14.1	0.3	67.0	23.4	35.0	6.1	14.3	0.3
33-1	F	43.2	14.9	0.0	68.0	23.6	34.9	6.4	11.5	0.4
33-3	F	46.0	15.8	0.0	70.0	24.1	34.8	6.6	12.9	0.7
33-8	F	44.0	15.2	0.3	72.0	24.8	35.0	6.2	13.4	0.3
33-12	F	47.0	16.4	0.2	70.0	24.8	35.6	6.8	13.4	0.2
33-17	F	45.4	15.6	0.3	70.0	24.2	34.8	6.5	13.8	0.1
33-22	F	45.8	16.1	0.7	68.0	24.2	35.6	6.7	11.5	0.6
33-26	F	45.0	15.8	0.2	69.0	24.4	35.7	6.6	15.2	0.1
34-3	F	37.6	13.7	0.1	70.0	25.6	36.8	5.4	10.0	0.5
34-1	F	43.6	14.8	0.0	70.0	24.0	34.5	6.3	10.2	0.5
34-3	F	46.4	15.9	0.1	71.0	24.3	34.6	6.6	10.8	1.0
34-8	F	46.3	16.0	0.3	70.0	24.4	35.2	6.7	14.2	1.0
34-12	F	42.6	14.4	0.2	70.0	23.8	34.4	6.2	14.4	0.4
34-17	F	40.2	14.0	0.3	68.0	23.9	35.6	6.0	10.4	0.3
34-22	F	44.2	15.5	0.1	69.0	24.2	35.5	6.5	8.0	0.6
34-26	F	42.6	14.7	0.3	68.0	23.5	35.0	6.3	9.6	0.4
35-3	F	45.8	15.6	0.3	70.0	23.9	34.6	6.6	9.6	0.2
35-1	F	42.0	14.3	0.1	69.0	23.6	34.6	6.2	11.2	0.2
35-3	F	41.7	14.1	0.0	69.0	23.6	34.3	6.1	10.6	0.8
35-8	F	44.5	15.3	0.3	70.0	24.1	35.0	6.5	11.2	0.7
35-12	F	41.5	14.2	0.3	68.0	23.8	35.0	6.1	12.6	0.2
35-17	F	40.5	14.3	0.1	67.0	23.9	35.8	6.1	11.4	0.2
35-22	F	42.2	14.8	0.3	68.0	24.0	35.7	6.3	11.2	0.4
35-26	F	41.3	14.4	0.3	68.0	23.8	35.6	6.1	11.7	0.1
36-3	F	39.0	12.8	0.1	70.0	23.2	33.5	5.7	7.4	1.0
36-1	F	44.5	14.5	0.1	68.0	22.3	33.0	6.6	9.9	0.5
36-3	F	45.2	15.4	0.1	68.0	23.2	34.5	6.7	8.6	0.8
36-8	F	44.3	15.0	0.2	68.0	23.3	34.6	6.6	11.9	0.9
36-12	F	45.7	15.7	0.1	68.0	23.8	35.0	6.7	14.2	0.7
36-17	F	43.1	15.0	0.1	66.0	23.2	35.4	6.6	9.6	0.0
36-22	F	40.0	14.0	1.0	68.0	24.1	35.6	5.9	12.4	0.9
36-26	F	46.6	16.1	0.2	68.0	23.8	35.0	6.9	11.2	0.3

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL HEMATOLOGY VALUES

D O G #	S E X	PLATELETS (10 ⁹ /3/CUMM)	NEUTROPHILS IMMATURE (% WBC)	NEUTROPHILS MATURE (% WBC)	LYMPHOCYTES (% WBC)	EOSINOPHILS (% WBC)	BASOPHILS (% WBC)	MONOCYTES (% WBC)	NRBC (% WBC)	CLOTTING TIME (MIN)	PROTHROMBIN TIME (SEC)
31	-3	F	325.0	0.0	65.0	30.0	5.0	0.0	0.0	6.0	12.2
31	-1	F	375.0	1.0	59.0	34.0	6.0	0.0	0.0	3.0	6.8
31	3	F	370.0	2.0	79.0	17.0	2.0	0.0	0.0	2.5	6.4
31	8	F	335.0	0.0	53.0	34.0	13.0	0.0	0.0	1.5	8.2
31	12	F	310.0	0.0	67.0	27.0	6.0	0.0	0.0	2.0	7.0
31	17	F	285.0	3.0	57.0	32.0	4.0	3.0	1.0	2.0	7.3
31	22	F	285.0	6.0	61.0	29.0	4.0	0.0	2.0	1.0	6.9
31	26	F	480.0	4.0	66.0	22.0	8.0	0.0	0.0	2.5	7.9
32	-3	F	335.0	1.0	68.0	24.0	2.0	0.0	1.0	2.0	27.2
32	-1	F	365.0	0.0	58.0	31.0	10.0	0.0	0.0	3.5	6.4
32	3	F	395.0	0.0	63.0	23.0	14.0	0.0	0.0	4.0	6.4
32	8	F	535.0	0.0	72.0	22.0	6.0	0.0	0.0	6.5	6.4
32	12	F	570.0	1.0	57.0	26.0	16.0	0.0	0.0	4.5	6.9
32	17	F	365.0	7.0	61.0	20.0	11.0	1.0	1.0	6.0	6.9
32	22	F	320.0	0.0	70.0	29.0	1.0	0.0	0.0	5.0	7.4
32	26	F	475.0	4.0	71.0	20.0	5.0	0.0	0.0	6.5	6.9
33	-3	F	305.0	3.0	73.0	21.0	2.0	1.0	0.0	5.0	---
33	-1	F	410.0	3.0	43.0	46.0	4.0	4.0	2.0	3.0	6.4
33	3	F	480.0	1.0	60.0	36.0	3.0	0.0	0.0	3.0	6.9
33	8	F	375.0	0.0	62.0	36.0	2.0	0.0	0.0	6.0	6.9
33	12	F	290.0	1.0	67.0	26.0	5.0	0.0	0.0	2.0	7.3
33	17	F	575.0	5.0	61.0	34.0	7.0	0.0	0.0	3.0	7.4
33	22	F	330.0	1.0	61.0	34.0	4.0	0.0	0.0	3.0	7.9
33	26	F	340.0	2.0	71.0	20.0	5.0	0.0	0.0	2.5	---
34	-3	F	315.0	0.0	53.0	39.0	8.0	0.0	0.0	1.5	17.6
34	-1	F	375.0	0.0	44.0	53.0	1.0	0.0	0.0	2.5	5.9
34	3	F	220.0	1.0	64.0	34.0	1.0	0.0	0.0	1.5	6.4
34	8	F	595.0	0.0	67.0	33.0	0.0	0.0	1.0	1.0	6.4
34	12	F	470.0	0.0	78.0	22.0	0.0	0.0	0.0	1.0	6.8
34	17	F	545.0	3.0	55.0	37.0	4.0	0.0	0.0	3.0	6.4
34	22	F	285.0	1.0	55.0	39.0	5.0	0.0	0.0	6.0	7.9
34	26	F	365.0	4.0	57.0	37.0	2.0	0.0	0.0	2.0	6.9
35	-3	F	200.0	1.0	66.0	28.0	5.0	0.0	0.0	4.5	6.9
35	-1	F	270.0	0.0	84.0	16.0	0.0	0.0	0.0	3.0	7.4
35	3	F	455.0	0.0	71.0	24.0	5.0	0.0	0.0	5.0	7.4
35	8	F	475.0	0.0	78.0	20.0	2.0	0.0	0.0	3.0	6.9
35	12	F	425.0	0.0	68.0	21.0	11.0	0.0	0.0	2.0	7.8
35	17	F	542.0	1.0	80.0	17.0	2.0	0.0	0.0	6.0	7.1
35	22	F	515.0	0.0	76.0	23.0	1.0	0.0	0.0	3.0	14.6
35	26	F	600.0	3.0	76.0	19.0	2.0	0.0	0.0	2.0	7.4
36	-3	F	540.0	3.0	70.0	30.0	7.0	0.0	0.0	6.0	7.4
36	-1	F	375.0	2.0	71.0	18.0	8.0	0.0	0.0	2.0	7.4
36	3	F	280.0	0.0	69.0	23.0	8.0	0.0	0.0	1.5	8.1
36	8	F	275.0	0.0	58.0	28.0	14.0	0.0	0.0	2.0	---
36	12	F	275.0	0.0	70.0	23.0	7.0	0.0	0.0	1.0	7.9
36	17	F	210.0	0.0	64.0	26.0	8.0	0.0	0.0	1.0	---
36	22	F	505.0	2.0	66.0	20.0	11.0	0.0	0.0	1.0	---
36	26	F	180.0	4.0	67.0	22.0	7.0	0.0	0.0	1.0	---

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL HEMATOLOGY VALUES

DOSE GROUP	SEX	WEEK	HEMATOCRIT (%)	HEMOGLOBIN (G/DL)	METHEMOGLOBIN (G/DL)	MCV (UM 3)	MCH (UG)	MCHC (G/DL)	RBC (10 ⁶ /CUMM)	WBC (10 ³ /CUMM)	RETICULOCYTES (% RBC)
37	-3	M	41.8	14.1	0.2	71.0	24.2	34.2	5.9	8.3	0.1
37	-1	M	39.4	13.5	0.1	69.0	24.0	34.8	5.7	7.7	0.0
37	3	M	40.4	13.6	0.2	70.0	24.0	34.2	5.8	10.4	0.7
37	8	M	39.8	13.6	0.2	70.0	24.0	34.7	5.8	10.6	0.9
37	12	M	36.6	12.6	0.3	70.0	24.2	35.1	5.3	12.0	0.7
37	17	M	38.6	13.9	0.3	69.0	25.0	36.6	5.6	9.4	0.5
37	22	M	39.3	13.7	0.3	68.0	24.2	35.5	5.8	10.5	0.5
37	26	M	43.3	15.2	0.4	69.0	24.2	35.6	6.4	11.8	0.0
38	-3	M	36.6	12.2	0.1	73.0	24.8	34.0	5.0	10.2	0.8
38	-1	M	40.4	13.2	0.2	72.0	23.9	33.2	5.6	11.3	0.4
38	3	M	36.3	11.6	0.4	74.0	23.8	32.5	5.0	16.4	0.1
38	8	M	39.7	12.9	0.3	73.0	24.0	33.0	5.5	12.8	1.7
38	12	M	37.8	12.5	0.5	74.0	24.9	33.5	5.1	17.0	0.4
38	17	M	37.7	12.5	0.4	74.0	24.8	33.7	5.1	14.9	0.6
38	22	M	39.2	13.3	0.4	72.0	24.8	34.4	5.4	14.0	0.4
38	26	M	39.4	13.4	0.3	73.0	25.0	34.6	5.4	12.8	1.2
39	-3	M	41.4	14.0	0.1	68.0	23.3	34.4	6.1	6.9	0.1
39	-1	M	42.4	14.6	0.3	70.0	23.6	34.0	6.3	8.6	0.2
39	3	M	43.4	14.4	0.8	72.0	24.4	34.3	6.0	14.0	0.8
39	8	M	36.9	12.8	0.4	68.0	24.0	35.0	5.4	9.8	0.8
39	12	M	34.2	11.4	0.5	70.0	23.7	34.0	4.9	10.2	0.8
39	17	M	35.2	12.0	0.4	67.0	23.2	34.6	5.3	5.8	0.3
39	22	M	35.9	12.4	0.1	68.0	23.8	35.3	5.3	6.8	0.6
39	26	M	35.6	12.4	0.4	69.0	24.1	35.2	5.2	6.2	0.1
40	-3	M	42.6	14.8	0.0	70.0	24.3	35.0	6.2	13.9	0.1
40	-1	M	45.1	15.1	0.0	70.0	23.5	34.0	6.5	10.4	0.4
40	3	M	43.1	14.2	0.3	70.0	23.3	33.4	6.2	13.2	0.8
40	8	M	39.3	13.0	0.3	70.0	23.4	33.7	5.7	13.2	1.2
40	12	M	36.8	12.4	0.1	69.0	23.6	34.2	5.4	13.3	0.3
40	17	M	38.4	12.9	0.2	69.0	23.6	34.2	5.6	15.0	2.4
40	22	M	36.9	12.8	0.6	68.0	23.6	35.3	5.5	11.8	0.3
40	26	M	38.2	13.0	0.3	68.0	23.3	34.6	5.7	11.2	0.5
41	-3	M	38.4	13.3	0.0	70.0	24.6	35.0	5.5	10.5	0.4
41	-1	M	39.4	13.3	0.1	71.0	24.0	34.1	5.6	10.2	0.3
41	3	M	35.7	11.8	0.4	72.0	24.4	33.6	4.9	11.8	2.8
41	8	M	35.3	11.8	0.3	71.0	24.2	34.2	5.0	9.9	2.0
41	12	M	36.2	12.1	0.1	72.0	24.6	34.0	5.0	12.5	0.9
41	17	M	34.8	11.8	0.5	70.0	24.0	34.6	5.0	8.2	2.5
41	22	M	34.8	12.0	0.5	70.0	24.3	34.9	5.0	11.0	1.9
41	26	M	34.2	11.7	0.4	70.0	24.3	34.7	4.9	7.9	0.7
42	-3	M	43.8	15.0	0.1	70.0	24.2	34.6	6.3	11.2	0.8
42	-1	M	41.8	14.4	0.2	71.0	24.7	35.0	5.9	10.7	0.3
42	3	M	44.0	14.8	0.5	70.0	23.6	34.0	6.3	13.4	1.0
42	8	M	40.8	13.6	0.3	70.0	23.6	33.8	5.8	18.6	0.4
42	12	M	35.6	11.7	0.4	69.0	22.9	33.4	5.2	17.8	0.2
42	17	M	32.6	10.8	0.1	69.0	23.4	34.0	4.7	35.6	0.7
42	22	M	39.2	13.0	0.4	67.0	22.6	33.7	5.9	19.9	1.3
42	26	M	34.4	11.2	0.3	68.0	22.4	32.6	5.1	30.5	4.2

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL HEMATOLOGY VALUES

DOGE #	WEEK	SSEX	PLATELETS (10 ³ /CUMM)	NEUTROPHILS IMMATURE (% WBC)	NEUTROPHILS MATURE (% WBC)	LYMPHOCYTES (% WBC)	EOSINOPHILS (% WBC)	BASOPHILS (% WBC)	MONOCYTES (% WBC)	NRBC (% WBC)	CLOTTING TIME (MIN)	PROTHROMBIN TIME (SEC)
37	-3	M	390.0	0.0	52.0	44.0	3.0	0.0	1.0	2.0	5.0	7.4
37	-1	M	275.0	1.0	66.0	27.0	6.0	0.0	0.0	0.0	6.0	6.4
37	3	M	400.0	1.0	77.0	22.0	0.0	0.0	0.0	4.0	4.5	6.4
37	8	M	525.0	0.0	69.0	26.0	4.0	0.0	1.0	2.0	4.0	7.2
37	12	M	790.0	1.0	75.0	19.0	5.0	0.0	0.0	2.0	2.0	6.9
37	17	M	485.0	0.0	68.0	25.0	2.0	0.0	5.0	1.0	5.5	7.6
37	22	M	695.0	1.0	68.0	24.0	7.0	0.0	0.0	0.0	1.5	6.9
37	26	M	430.0	5.0	76.0	16.0	1.0	0.0	2.0	0.0	5.0	7.9
38	-3	M	280.0	0.0	61.0	29.0	7.0	0.0	3.0	0.0	6.0	6.9
38	-1	M	245.0	0.0	61.0	26.0	9.0	0.0	4.0	0.0	7.5	6.4
38	3	M	380.0	1.0	71.0	19.0	9.0	0.0	0.0	0.0	5.0	5.9
38	8	M	400.0	0.0	69.0	23.0	7.0	0.0	1.0	0.0	5.5	6.9
38	12	M	455.0	1.0	73.0	18.0	8.0	0.0	0.0	0.0	2.5	6.8
38	17	M	415.0	1.0	70.0	21.0	6.0	0.0	2.0	0.0	5.5	6.9
38	22	M	435.0	1.0	74.0	15.0	8.0	0.0	1.0	2.0	3.0	6.6
38	26	M	405.0	2.0	74.0	17.0	6.0	0.0	0.0	0.0	5.0	8.1
39	-3	M	435.0	0.0	56.0	38.0	3.0	0.0	3.0	0.0	5.5	6.9
39	-1	M	530.0	0.0	58.0	22.0	17.0	0.0	0.0	0.0	5.0	6.9
39	3	M	505.0	1.0	78.0	19.0	3.0	0.0	0.0	0.0	3.0	5.9
39	8	M	680.0	1.0	78.0	18.0	3.0	0.0	0.0	1.0	8.0	6.8
39	12	M	780.0	2.0	75.0	18.0	5.0	0.0	0.0	0.0	9.0	7.0
39	17	M	575.0	5.0	68.0	20.0	7.0	0.0	0.0	0.0	4.5	6.9
39	22	M	850.0	4.0	77.0	17.0	2.0	0.0	0.0	0.0	4.0	7.4
39	26	M	525.0	3.0	74.0	17.0	6.0	0.0	0.0	0.0	5.5	6.4
40	-3	M	330.0	0.0	69.0	22.0	6.0	0.0	3.0	0.0	7.0	6.9
40	-1	M	425.0	1.0	61.0	31.0	6.0	0.0	1.0	2.0	2.0	6.4
40	3	M	430.0	4.0	74.0	15.0	4.0	0.0	3.0	0.0	6.0	6.4
40	8	M	605.0	2.0	86.0	9.0	3.0	0.0	0.0	0.0	2.5	6.9
40	12	M	670.0	0.0	91.0	9.0	0.0	0.0	0.0	2.0	2.5	6.9
40	17	M	610.0	5.0	84.0	10.0	0.0	0.0	1.0	0.0	1.0	6.8
40	22	M	435.0	1.0	89.0	10.0	0.0	0.0	0.0	0.0	5.0	6.9
40	26	M	590.0	4.0	84.0	11.0	0.0	1.0	0.0	0.0	2.5	7.9
41	-3	M	430.0	0.0	68.0	30.0	2.0	0.0	0.0	2.0	1.5	7.9
41	-1	M	435.0	0.0	56.0	34.0	7.0	0.0	3.0	0.0	2.5	6.4
41	3	M	710.0	0.0	69.0	23.0	6.0	0.0	2.0	0.0	3.5	6.4
41	8	M	700.0	0.0	76.0	23.0	0.0	0.0	0.0	0.0	2.0	6.8
41	12	M	530.0	0.0	73.0	22.0	4.0	1.0	0.0	0.0	7.0	6.9
41	17	M	480.0	3.0	72.0	20.0	5.0	0.0	0.0	0.0	8.5	6.9
41	22	M	750.0	2.0	71.0	24.0	2.0	0.0	1.0	0.0	6.5	6.9
41	26	M	700.0	4.0	69.0	22.0	1.0	0.0	3.0	0.0	4.0	6.9
42	-3	M	555.0	0.0	72.0	26.0	2.0	0.0	0.0	0.0	5.0	14.2
42	-1	M	340.0	0.0	69.0	31.0	0.0	0.0	0.0	0.0	6.5	6.4
42	3	M	390.0	2.0	83.0	13.0	2.0	0.0	0.0	0.0	4.5	6.4
42	8	M	475.0	0.0	86.0	10.0	2.0	0.0	2.0	2.0	4.0	6.4
42	12	M	410.0	0.0	84.0	11.0	4.0	0.0	1.0	2.0	3.5	6.9
42	17	M	260.0	1.0	94.0	5.0	0.0	0.0	0.0	0.0	8.0	6.9
42	22	M	525.0	1.0	87.0	12.0	0.0	---	0.0	0.0	5.0	7.6
42	26	M	690.0	0.0	86.0	10.0	4.0	0.0	0.0	2.0	2.0	8.4

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL HEMATOLOGY VALUES

D O G #	S E X	H E M A T O C R I T (%)	H E M O G L O B I N (G/DL)	M E T H E M O G L O B I N (G/DL)	M C V (UM 3)	M C H (UUG)	M C H C (G/DL)	R B C (10**6/CUMM)	W B C (10**3/CUMM)	R E T I C U L O C Y T E S (% RBC)
43	-3	F	44.2	14.9	0.1	72.0	24.4	34.2	9.2	0.2
43	-1	F	41.0	13.4	0.1	70.0	23.0	33.1	10.5	---
43	3	F	41.7	13.8	0.4	71.0	23.7	33.4	13.0	1.6
43	8	F	39.7	12.6	0.3	72.0	23.4	32.4	12.8	0.3
43	12	F	36.7	12.0	0.4	71.0	23.6	33.4	10.0	0.3
43	17	F	39.6	13.4	0.3	70.0	23.6	34.2	11.6	0.6
43	22	F	41.6	14.0	0.6	72.0	24.2	34.2	12.9	0.5
43	26	F	40.5	13.8	0.3	71.0	24.4	34.6	12.6	0.3
44	-3	F	44.6	15.4	0.3	68.0	23.6	35.0	12.8	0.6
44	-1	F	52.0	17.9	0.3	69.0	23.8	34.8	10.2	0.3
44	3	F	41.4	13.8	0.3	70.0	23.6	33.7	13.0	0.7
44	8	F	45.3	15.1	0.3	71.0	23.8	33.8	9.5	0.9
44	12	F	42.3	14.0	0.5	72.0	24.2	33.6	12.7	1.1
44	17	F	42.2	14.0	0.5	72.0	24.2	33.7	10.2	1.9
44	22	F	43.0	14.6	0.4	72.0	24.6	34.6	13.4	1.0
44	26	F	42.2	14.6	0.1	72.0	24.9	35.1	14.2	1.2
45	-3	F	39.2	13.6	0.2	71.0	24.6	35.0	8.2	0.3
45	-1	F	43.6	14.8	0.0	70.0	23.8	34.4	7.2	0.2
45	3	F	41.2	13.8	0.2	72.0	24.3	34.2	11.4	1.2
45	8	F	40.1	13.5	0.4	73.0	24.8	34.2	10.9	1.3
45	12	F	39.6	13.6	0.4	72.0	24.8	34.8	11.0	0.7
45	17	F	44.0	14.6	0.4	74.0	24.7	33.8	11.6	1.0
45	22	F	42.2	14.5	0.7	72.0	24.9	35.0	11.4	1.0
45	26	F	44.0	15.2	0.3	72.0	25.0	35.0	12.2	0.9
46	-3	F	48.1	16.5	0.1	68.0	23.6	34.8	7.1	0.7
46	-1	F	49.2	17.1	0.0	68.0	23.5	35.0	8.2	0.3
46	3	F	46.8	15.8	0.5	69.0	23.2	34.2	10.2	0.9
46	8	F	35.2	11.1	0.4	74.0	23.6	32.0	13.6	1.1
46	12	F	47.2	15.6	0.4	70.0	23.5	33.7	11.5	1.2
46	17	F	40.6	13.8	0.5	70.0	23.8	34.5	9.8	1.2
46	22	F	43.4	14.8	0.7	70.0	24.1	34.4	11.8	0.6
46	26	F	45.0	15.2	0.5	70.0	23.8	34.3	10.5	0.7
47	-3	F	45.6	16.0	0.2	70.0	24.6	35.4	13.7	0.8
47	-1	F	47.5	16.0	0.3	70.0	24.0	34.3	12.0	0.1
47	3	F	45.9	15.2	1.0	70.0	23.6	33.6	18.3	0.8
47	8	F	43.6	14.7	0.3	72.0	24.4	34.2	17.6	0.9
47	12	F	45.2	15.3	0.9	74.0	25.2	34.2	14.7	0.6
47	17	F	42.0	14.2	0.3	72.0	24.4	34.5	14.2	0.7
47	22	F	39.4	13.6	0.4	71.0	24.6	34.9	15.2	0.7
47	26	F	40.9	14.0	0.5	72.0	25.0	34.6	17.4	1.5
48	-3	F	42.8	14.2	0.0	70.0	23.2	33.7	8.6	0.4
48	-1	F	48.7	15.8	0.1	68.0	22.2	32.8	9.8	0.3
48	3	F	49.7	16.4	0.5	70.0	23.3	33.6	12.2	0.6
48	8	F	45.5	15.5	0.1	68.0	23.6	34.6	10.6	1.4
48	12	F	42.6	14.2	0.3	68.0	23.0	33.8	16.6	0.7
48	17	F	40.9	14.1	0.4	66.0	23.0	35.1	12.6	0.4
48	22	F	44.0	15.1	0.8	68.0	23.6	35.0	17.2	0.3
48	26	F	44.3	15.2	---	70.0	24.0	34.6	15.8	0.6

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL HEMATOLOGY VALUES

D O G #	W E E K	S E X	PLATELETS (10**3/CUMM)	NEUTROPHILS IMMATURE (% WBC)	NEUTROPHILS MATURE (% WBC)	LYMPHOCYTES (% WBC)	EOSINOPHILS (% WBC)	BASOPHILS (% WBC)	MONOCYTES (% WBC)	NRBC (% WBC)	CLOTTING TIME (MIN)	PROTHROMBIN TIME (SEC)
43	-3	F	315.0	2.0	47.0	41.0	4.0	0.0	6.0	0.0	3.5	6.9
43	-1	F	255.0	0.0	54.0	42.0	2.0	0.0	2.0	0.0	4.0	5.9
43	3	F	255.0	0.0	60.0	36.0	4.0	0.0	0.0	1.0	2.0	6.4
43	8	F	315.0	0.0	64.0	25.0	7.0	0.0	4.0	0.0	3.0	6.9
43	12	F	475.0	1.0	63.0	32.0	4.0	0.0	0.0	0.0	2.0	6.8
43	17	F	310.0	1.0	62.0	29.0	7.0	0.0	1.0	0.0	3.5	---
43	22	F	570.0	0.0	61.0	28.0	10.0	0.0	1.0	0.0	5.0	7.4
43	26	F	370.0	2.0	62.0	33.0	4.0	0.0	0.0	0.0	3.0	7.4
44	-3	F	280.0	2.0	51.0	41.0	5.0	0.0	1.0	0.0	2.0	---
44	-1	F	285.0	0.0	38.0	48.0	13.0	0.0	1.0	0.0	1.5	6.4
44	3	F	285.0	0.0	69.0	22.0	9.0	0.0	0.0	0.0	1.5	6.4
44	8	F	380.0	0.0	47.0	43.0	10.0	0.0	0.0	2.0	2.0	6.9
44	12	F	615.0	0.0	78.0	18.0	4.0	0.0	0.0	0.0	2.0	6.9
44	17	F	470.0	0.0	67.0	24.0	7.0	0.0	2.0	1.0	1.0	7.4
44	22	F	430.0	0.0	70.0	25.0	5.0	0.0	0.0	0.0	1.5	6.9
44	26	F	505.0	0.0	70.0	25.0	5.0	0.0	0.0	0.0	1.0	7.9
45	-3	F	280.0	0.0	57.0	41.0	2.0	0.0	0.0	2.0	1.5	13.9
45	-1	F	450.0	0.0	60.0	38.0	1.0	0.0	1.0	0.0	4.5	6.6
45	3	F	390.0	0.0	84.0	16.0	0.0	0.0	0.0	0.0	6.0	6.4
45	8	F	520.0	0.0	75.0	25.0	0.0	0.0	0.0	0.0	4.5	7.2
45	12	F	620.0	0.0	77.0	21.0	2.0	0.0	0.0	0.0	4.0	6.9
45	17	F	325.0	3.0	73.0	20.0	4.0	0.0	0.0	2.0	1.0	7.4
45	22	F	355.0	0.0	82.0	15.0	3.0	0.0	0.0	0.0	2.0	6.9
45	26	F	480.0	5.0	85.0	9.0	1.0	0.0	0.0	0.0	1.5	7.9
46	-3	F	325.0	0.0	50.0	44.0	5.0	0.0	0.0	0.0	5.0	6.9
46	-1	F	405.0	1.0	67.0	28.0	2.0	0.0	2.0	1.0	4.0	5.9
46	3	F	520.0	1.0	73.0	22.0	4.0	0.0	0.0	2.0	4.0	6.4
46	8	F	605.0	0.0	75.0	20.0	5.0	0.0	0.0	0.0	3.0	6.9
46	12	F	645.0	1.0	65.0	26.0	8.0	0.0	0.0	0.0	2.0	7.4
46	17	F	865.0	2.0	52.0	36.0	8.0	0.0	2.0	0.0	5.0	7.8
46	22	F	855.0	1.0	50.0	35.0	13.0	0.0	1.0	0.0	3.0	6.9
46	26	F	455.0	4.0	60.0	29.0	7.0	0.0	0.0	0.0	3.0	6.9
47	-3	F	585.0	2.0	40.0	48.0	7.0	0.0	3.0	0.0	3.0	6.6
47	-1	F	135.0	0.0	26.0	58.0	16.0	0.0	0.0	1.0	2.0	6.6
47	3	F	805.0	0.0	61.0	23.0	16.0	0.0	0.0	0.0	4.5	6.4
47	8	F	605.0	0.0	57.0	26.0	17.0	0.0	0.0	0.0	2.5	6.4
47	12	F	340.0	0.0	54.0	43.0	3.0	0.0	0.0	1.0	2.5	6.4
47	17	F	530.0	1.0	61.0	28.0	8.0	0.0	0.0	0.0	6.0	7.4
47	22	F	670.0	1.0	66.0	29.0	4.0	0.0	0.0	0.0	3.0	7.2
47	26	F	685.0	3.0	75.0	17.0	4.0	0.0	1.0	4.0	1.0	6.4
48	-3	F	470.0	0.0	61.0	30.0	8.0	0.0	1.0	0.0	3.0	17.4
48	-1	F	335.0	0.0	61.0	29.0	8.0	0.0	2.0	0.0	7.0	6.4
48	3	F	415.0	0.0	55.0	34.0	11.0	0.0	0.0	0.0	4.0	5.9
48	8	F	590.0	1.0	52.0	35.0	12.0	0.0	0.0	0.0	3.0	6.4
48	12	F	695.0	0.0	71.0	26.0	3.0	0.0	0.0	0.0	4.5	6.8
48	17	F	395.0	1.0	62.0	28.0	10.0	0.0	0.0	1.0	2.0	7.0
48	22	F	250.0	1.0	61.0	27.0	9.0	0.0	1.0	0.0	8.0	6.9
48	26	F	635.0	4.0	63.0	28.0	5.0	0.0	0.0	1.0	3.5	6.9

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL HEMATOLOGY VALUES

D O G #	M E E K	S E X	HEMATOCRIT (%)	HEMOGLOBIN (G/DL)	METHEMOGLOBIN (G/DL)	MCV (UM 3)	MCH (UUG)	MCHC (G/DL)	RBC (10**6/CUMM)	WBC (10**3/CUMM)	RETICULOCYTES (% RBC)
48	-3	M	47.4	15.7	0.0	76.0	25.0	33.5	6.4	13.0	0.5
49	-1	M	44.6	15.2	0.1	72.0	24.8	34.6	6.2	10.1	0.2
49	3	M	42.1	13.8	1.0	75.0	24.8	33.3	5.6	14.4	2.0
49	8	M	45.2	15.1	1.1	76.0	25.6	33.9	6.0	16.5	0.9
49	12	M	43.4	14.2	1.5	76.0	25.0	33.3	5.8	13.6	2.1
49	17	M	39.1	13.1	1.8	73.0	24.7	34.2	5.4	10.0	2.9
49	22	M	41.3	13.6	1.2	76.0	25.0	33.4	5.5	19.4	3.1
49	26	M	41.3	13.6	1.0	77.0	25.5	33.4	5.4	22.6	3.0
50	-3	M	45.4	15.7	0.4	68.0	23.9	35.0	6.7	14.4	0.6
50	-1	M	45.2	15.4	0.2	70.0	24.0	34.5	6.5	12.2	0.3
50	3	M	37.8	11.8	1.9	78.0	24.6	31.8	4.9	20.8	3.2
50	8	M	41.4	13.2	1.1	74.0	23.9	32.4	5.6	19.1	1.1
50	12	M	39.6	12.0	1.3	76.0	23.6	31.1	5.2	17.6	1.4
50	17	M	38.2	12.4	1.3	74.0	24.4	33.0	5.2	27.2	3.5
50	22	M	41.9	13.4	1.2	76.0	24.6	32.7	5.6	26.6	5.8
50	26	M	40.8	12.9	1.4	77.0	24.4	32.1	5.4	25.9	4.3
51	-3	M	44.0	15.2	0.0	70.0	24.4	35.1	6.3	10.6	0.2
51	-1	M	40.5	13.7	0.1	70.0	23.8	34.2	5.8	11.1	0.1
51	3	M	38.2	12.0	0.7	76.0	24.1	32.0	5.1	18.2	2.0
51	8	M	36.4	11.6	1.2	75.0	24.2	32.2	4.8	22.9	4.0
51	12	M	40.2	13.2	1.7	74.0	24.7	33.6	5.5	24.7	1.9
51	17	M	36.9	12.2	1.2	72.0	24.1	33.6	5.1	17.2	3.8
51	22	M	39.3	12.5	1.0	76.0	24.2	32.4	5.3	19.8	4.2
51	26	M	38.5	12.5	1.1	76.0	24.6	33.0	5.1	20.5	1.9
52	-3	M	43.1	15.0	0.2	70.0	24.4	35.4	6.2	15.6	0.2
52	-1	M	41.6	14.2	0.0	70.0	24.0	34.6	6.0	11.5	1.1
52	3	M	35.1	11.2	1.7	75.0	24.0	32.2	4.7	20.6	3.3
52	8	M	40.4	13.2	0.6	73.0	24.0	33.1	5.6	19.8	3.7
52	12	M	39.2	12.6	1.1	74.0	24.0	32.7	5.3	20.8	2.9
52	17	M	36.8	12.0	1.0	72.0	24.0	33.2	5.1	16.5	4.6
52	22	M	37.0	12.1	1.3	74.0	24.3	33.2	5.1	18.2	3.1
52	26	M	35.8	11.5	1.2	74.0	24.2	32.7	4.8	25.8	1.9
53	-3	M	37.8	12.9	0.1	69.0	23.8	34.6	5.5	14.4	0.4
53	-1	M	39.6	13.2	0.2	73.0	24.6	34.0	5.5	14.2	0.1
53	3	M	38.8	12.6	1.2	74.0	24.3	32.8	5.2	19.9	2.1
53	8	M	36.6	12.0	0.6	76.0	25.2	33.4	4.9	22.8	1.7
53	12	M	35.6	11.8	1.0	74.0	24.8	33.6	4.8	15.5	0.6
53	17	M	30.3	9.5	0.6	76.0	24.2	32.0	4.0	10.3	1.9
53	22	M	28.6	8.8	0.5	78.0	24.6	31.6	3.7	16.6	6.5
53	26	M	31.0	9.6	0.3	75.0	23.7	31.6	4.1	19.9	5.4
54	-3	M	41.8	14.1	0.3	67.0	22.8	34.2	6.3	9.2	0.7
54	-1	M	42.3	14.4	0.2	66.0	22.4	34.4	6.5	9.6	1.8
54	3	M	41.0	13.3	0.5	70.0	22.8	32.9	5.9	14.8	2.2
54	8	M	41.9	13.8	0.6	74.0	24.6	33.6	5.7	17.7	4.3
54	12	M	38.9	12.7	0.7	74.0	24.4	33.2	5.3	16.6	2.9
54	17	M	41.0	13.6	1.0	74.0	24.9	33.9	5.6	18.8	3.2
54	22	M	41.3	13.6	0.9	74.0	24.8	33.6	5.6	17.4	3.2
54	26	M	41.7	13.8	1.1	75.0	24.8	33.5	5.6	29.9	2.7

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
INDIVIDUAL HEMATOLOGY VALUES

DOGESEX	PLATELETS (10 ³ +/3/CUMM)	NEUTROPHILS IMMATURE (% WBC)	NEUTROPHILS MATURE (% WBC)	LYMPHOCYTES (% WBC)	EOSINOPHILS (% WBC)	BASOPHILS (% WBC)	MONOCYTES (% WBC)	NRBC (% WBC)	CLOTTING TIME (MIN)	PROTHROMBIN TIME (SEC)
49-3	380.0	0.0	54.0	40.0	4.0	0.0	3.0	0.0	2.0	---
49-1	300.0	1.0	56.0	36.0	4.0	0.0	3.0	0.0	3.0	6.4
49-3	660.0	1.0	73.0	26.0	0.0	0.0	0.0	4.0	4.0	6.4
49-8	635.0	0.0	65.0	34.0	1.0	0.0	0.0	5.0	3.5	7.0
49-12	650.0	0.0	67.0	31.0	2.0	0.0	0.0	2.0	7.0	7.2
49-17	700.0	0.0	69.0	26.0	2.0	0.0	3.0	4.0	5.0	7.5
49-22	590.0	1.0	65.0	28.0	3.0	0.0	3.0	1.0	3.0	7.4
49-26	770.0	5.0	72.0	15.0	8.0	0.0	0.0	0.0	4.5	7.1
50-3	375.0	0.0	68.0	29.0	3.0	0.0	0.0	0.0	8.0	8.4
50-1	490.0	2.0	66.0	20.0	8.0	0.0	4.0	3.0	4.0	7.4
50-3	525.0	2.0	76.0	16.0	6.0	0.0	2.0	6.0	3.0	6.2
50-8	345.0	1.0	80.0	15.0	4.0	0.0	0.0	7.0	2.5	7.9
50-12	565.0	2.0	80.0	11.0	7.0	0.0	0.0	5.0	1.0	8.4
50-17	562.0	2.0	75.0	13.0	10.0	0.0	0.0	3.0	6.0	8.4
50-22	670.0	3.0	65.0	23.0	9.0	0.0	0.0	5.0	5.0	8.4
50-26	370.0	4.0	63.0	26.0	7.0	0.0	0.0	1.0	1.0	7.4
51-3	395.0	0.0	50.0	39.0	9.0	0.0	2.0	0.0	2.0	6.4
51-1	440.0	0.0	63.0	27.0	10.0	0.0	0.0	0.0	6.0	6.4
51-3	425.0	0.0	65.0	26.0	9.0	0.0	0.0	3.0	4.5	6.4
51-8	585.0	1.0	79.0	16.0	4.0	0.0	0.0	2.0	4.0	6.9
51-12	705.0	1.0	64.0	25.0	10.0	0.0	0.0	3.0	5.0	6.9
51-17	285.0	3.0	75.0	17.0	5.0	0.0	0.0	4.0	3.5	6.9
51-22	405.0	1.0	75.0	18.0	6.0	0.0	0.0	3.0	3.5	6.9
51-26	920.0	---	---	---	---	---	---	1.0	5.0	6.9
52-3	375.0	0.0	73.0	23.0	2.0	0.0	2.0	0.0	2.0	7.9
52-1	285.0	1.0	67.0	29.0	2.0	0.0	1.0	4.0	1.5	6.9
52-3	625.0	2.0	66.0	32.0	0.0	0.0	0.0	7.0	3.0	6.4
52-8	415.0	0.0	77.0	23.0	0.0	0.0	0.0	5.0	1.5	6.9
52-12	265.0	0.0	90.0	10.0	0.0	0.0	0.0	1.0	4.5	7.2
52-17	395.0	1.0	86.0	11.0	2.0	0.0	0.0	1.0	6.5	7.4
52-22	520.0	1.0	88.0	7.0	3.0	0.0	0.0	7.0	3.5	7.6
52-26	240.0	2.0	85.0	9.0	3.0	0.0	1.0	2.0	1.0	7.4
53-3	460.0	1.0	64.0	32.0	3.0	0.0	0.0	1.0	7.0	7.4
53-1	360.0	1.0	74.0	24.0	1.0	0.0	0.0	1.0	6.0	6.4
53-3	530.0	3.0	68.0	26.0	3.0	0.0	0.0	2.0	2.0	5.9
53-8	670.0	0.0	79.0	21.0	0.0	0.0	0.0	1.0	5.0	6.8
53-12	825.0	4.0	75.0	21.0	0.0	0.0	0.0	0.0	2.5	6.9
53-17	495.0	16.0	48.0	33.0	1.0	0.0	1.0	13.0	5.0	6.9
53-22	570.0	23.0	37.0	37.0	3.0	0.0	0.0	9.0	4.5	7.4
53-26	680.0	30.0	38.0	32.0	0.0	0.0	0.0	11.0	3.5	7.6
54-3	400.0	0.0	59.0	40.0	1.0	0.0	0.0	0.0	2.5	6.4
54-1	280.0	2.0	53.0	40.0	5.0	0.0	0.0	1.0	2.5	6.2
54-3	360.0	2.0	67.0	28.0	3.0	0.0	0.0	1.0	1.5	6.4
54-8	580.0	0.0	74.0	23.0	2.0	0.0	0.0	2.0	2.0	6.6
54-12	715.0	1.0	69.0	26.0	4.0	0.0	0.0	0.0	1.0	6.8
54-17	655.0	5.0	68.0	15.0	9.0	0.0	3.0	0.0	3.5	7.4
54-22	585.0	4.0	68.0	23.0	4.0	0.0	1.0	0.0	1.0	6.9
54-26	530.0	5.0	79.0	14.0	2.0	0.0	0.0	0.0	1.0	6.9

--- INDICATES NO DATA

OF INDIVIDUAL HEMATOLOGY VALUES

DOUGLASS	W	E	S	PLATELETS (10 ⁹ +/3/CUMM)	NEUTROPHILS IMMATURE (% WBC)	NEUTROPHILS MATURE (% WBC)	LYMPHOCYTES (% WBC)	EOSINOPHILS (% WBC)	BASOPHILS (% WBC)	MONOCYTES (% WBC)	NRBC (% WBC)	CLOTTING TIME (MIN)	PROTHROMBIN TIME (SEC)
55	-3	F	F	315.0	0.0	66.0	20.0	10.0	0.0	4.0	1.0	3.5	6.9
55	-1	F	F	500.0	0.0	71.0	22.0	5.0	0.0	2.0	2.0	5.0	6.9
55	3	F	F	460.0	3.0	82.0	14.0	1.0	0.0	0.0	1.0	6.0	5.9
55	8	F	F	535.0	0.0	81.0	13.0	6.0	0.0	0.0	2.0	3.0	6.9
55	12	F	F	645.0	2.0	72.0	24.0	2.0	0.0	0.0	1.0	2.0	8.0
55	17	F	F	---	---	---	---	---	---	---	---	---	---
55	22	F	F	---	---	---	---	---	---	---	---	---	---
55	26	F	F	---	---	---	---	---	---	---	---	---	---
56	-3	F	F	325.0	0.0	39.0	46.0	12.0	0.0	3.0	2.0	3.5	6.4
56	-1	F	F	365.0	0.0	44.0	38.0	15.0	0.0	3.0	0.0	2.0	6.2
56	3	F	F	345.0	0.0	67.0	24.0	9.0	0.0	1.0	1.0	3.0	6.4
56	8	F	F	695.0	0.0	67.0	25.0	8.0	0.0	0.0	0.0	3.0	6.9
56	12	F	F	480.0	0.0	83.0	16.0	1.0	0.0	0.0	0.0	2.5	6.4
56	17	F	F	610.0	2.0	76.0	18.0	4.0	0.0	0.0	2.0	1.5	6.9
56	22	F	F	650.0	2.0	70.0	23.0	2.0	0.0	3.0	0.0	3.5	6.9
56	26	F	F	655.0	6.0	73.0	17.0	5.0	0.0	0.0	4.0	4.0	6.4
57	-3	F	F	350.0	0.0	55.0	40.0	2.0	0.0	3.0	0.0	---	7.9
57	-1	F	F	250.0	0.0	61.0	32.0	5.0	0.0	2.0	0.0	4.5	6.4
57	3	F	F	520.0	3.0	71.0	25.0	1.0	0.0	0.0	1.0	2.0	5.9
57	8	F	F	375.0	0.0	64.0	33.0	2.0	0.0	1.0	3.0	1.0	6.9
57	12	F	F	390.0	0.0	44.0	51.0	5.0	0.0	0.0	5.0	3.0	6.4
57	17	F	F	310.0	0.0	60.0	38.0	2.0	0.0	0.0	1.0	1.0	7.4
57	22	F	F	450.0	0.0	59.0	35.0	5.0	0.0	1.0	5.0	3.5	7.4
57	26	F	F	505.0	7.0	61.0	27.0	4.0	0.0	1.0	0.0	3.5	6.4
58	-3	F	F	265.0	0.0	52.0	45.0	3.0	0.0	0.0	1.0	1.5	7.9
58	-1	F	F	350.0	1.0	53.0	43.0	0.0	0.0	3.0	0.0	3.5	7.2
58	3	F	F	470.0	0.0	78.0	17.0	4.0	0.0	0.0	4.0	5.0	6.4
58	8	F	F	675.0	1.0	63.0	31.0	5.0	0.0	0.0	2.0	4.0	6.8
58	12	F	F	565.0	0.0	66.0	32.0	2.0	0.0	0.0	0.0	3.0	7.4
58	17	F	F	---	---	---	---	---	---	---	---	---	---
58	22	F	F	---	---	---	---	---	---	---	---	---	---
58	26	F	F	---	---	---	---	---	---	---	---	---	---
59	-3	F	F	235.0	1.0	57.0	35.0	5.0	0.0	2.0	0.0	7.0	7.4
59	-1	F	F	425.0	0.0	54.0	38.0	7.0	0.0	1.0	2.0	2.5	6.6
59	3	F	F	410.0	0.0	80.0	17.0	3.0	0.0	0.0	4.0	2.0	6.4
59	8	F	F	465.0	0.0	76.0	22.0	2.0	0.0	0.0	3.0	3.5	12.6
59	12	F	F	585.0	0.0	72.0	24.0	4.0	0.0	0.0	0.0	5.5	6.9
59	17	F	F	395.0	0.0	66.0	30.0	4.0	0.0	0.0	1.0	3.5	6.9
59	22	F	F	535.0	2.0	76.0	19.0	3.0	0.0	0.0	2.0	1.5	7.4
59	26	F	F	660.0	1.0	71.0	24.0	3.0	0.0	1.0	5.0	6.0	7.4
60	-3	F	F	400.0	0.0	68.0	32.0	0.0	0.0	0.0	1.0	2.0	7.4
60	-1	F	F	285.0	4.0	76.0	19.0	0.0	0.0	1.0	0.0	1.5	6.4
60	3	F	F	315.0	2.0	75.0	18.0	3.0	0.0	2.0	3.0	2.5	5.9
60	8	F	F	485.0	0.0	80.0	15.0	5.0	0.0	0.0	3.0	2.5	6.9
60	12	F	F	545.0	1.0	80.0	15.0	4.0	0.0	0.0	2.0	2.0	6.9
60	17	F	F	590.0	4.0	72.0	20.0	4.0	0.0	0.0	1.0	2.5	7.4
60	22	F	F	410.0	4.0	62.0	28.0	2.0	0.0	4.0	0.0	1.0	6.9
60	26	F	F	455.0	0.0	81.0	26.0	1.0	0.0	1.0	0.0	5.0	7.4

--- INDICATES NO DATA

INDIVIDUAL HEMATOLOGY VALUES

D O G #	W E E K	S E X	HEMATOCRIT (%)	HEMOGLOBIN (G/DL)	METHEMOGLOBIN (G/DL)	MCV (UM 3)	MCH (UUG)	MCHC (G/DL)	RBC (10**6/CUMM)	WBC (10**3/CUMM)	RETICULOCYTES (% RBC)
55	-3	F	43.2	14.9	0.2	70.0	24.2	35.0	6.3	12.2	0.6
55	-1	F	45.2	15.1	0.3	72.0	24.2	33.9	6.3	12.5	0.5
55	3	F	37.6	11.6	0.8	78.0	24.5	31.2	4.8	22.4	4.3
55	8	F	38.2	12.0	0.7	77.0	24.5	32.0	5.0	17.6	1.7
55	12	F	41.6	12.9	0.9	77.0	24.1	31.6	5.5	13.7	1.4
55	17	F	---	---	---	---	---	---	---	---	---
55	22	F	---	---	---	---	---	---	---	---	---
55	26	F	---	---	---	---	---	---	---	---	---
56	-3	F	38.9	13.0	0.2	70.0	23.6	33.9	5.6	9.4	0.3
56	-1	F	39.9	13.6	0.1	70.0	23.8	34.4	5.7	9.2	0.1
56	3	F	34.9	11.2	0.7	76.0	24.7	32.4	4.6	15.6	1.4
56	8	F	45.4	15.1	1.5	70.0	23.3	33.7	6.6	11.7	2.6
56	12	F	37.6	11.8	1.2	77.0	24.4	32.0	4.9	20.4	2.2
56	17	F	35.7	11.5	1.0	73.0	24.0	32.9	4.9	16.3	3.9
56	22	F	41.1	12.7	0.9	75.0	23.4	31.4	5.5	16.0	6.5
56	26	F	36.7	11.5	0.9	78.0	24.6	31.8	4.7	19.4	3.8
57	-1	F	44.2	15.3	0.3	70.0	24.6	35.0	6.3	8.7	0.3
57	-3	F	47.8	16.0	0.3	74.0	25.0	33.9	6.5	9.6	---
57	3	F	32.6	9.9	1.1	80.0	24.7	30.8	4.1	10.9	3.9
57	8	F	38.2	11.8	0.8	77.0	24.3	31.6	5.0	12.8	2.1
57	12	F	37.1	11.6	0.5	78.0	24.6	31.7	4.8	12.0	1.8
57	17	F	33.6	10.6	1.0	74.0	23.8	32.2	4.5	11.8	3.9
57	22	F	44.2	13.8	1.2	76.0	24.2	32.0	5.8	11.4	3.5
57	26	F	37.5	11.8	0.9	74.0	23.4	32.1	5.1	18.0	0.0
58	-3	F	45.2	15.5	0.1	70.0	24.4	35.2	6.5	8.2	0.6
58	-1	F	52.3	18.2	0.1	70.0	24.3	35.4	7.6	7.8	0.1
58	3	F	42.1	13.4	0.9	78.0	25.0	32.4	5.5	13.9	3.2
58	8	F	41.6	13.6	1.4	76.0	25.2	33.2	5.5	15.5	0.7
58	12	F	44.7	14.6	1.4	76.0	25.0	33.2	5.9	20.2	2.1
58	17	F	---	---	---	---	---	---	---	---	---
58	22	F	---	---	---	---	---	---	---	---	---
58	26	F	---	---	---	---	---	---	---	---	---
59	-3	F	38.9	13.6	---	70.0	24.4	35.5	5.6	7.1	0.2
59	-1	F	41.8	14.0	0.2	69.0	23.4	34.0	6.1	6.9	---
59	3	F	35.8	11.5	1.0	78.0	25.4	32.6	4.6	13.4	4.6
59	8	F	36.0	11.2	0.5	78.0	24.8	31.9	4.6	13.0	3.6
59	12	F	39.6	12.6	0.9	76.0	24.6	32.6	5.2	13.1	0.4
59	17	F	33.6	11.0	0.7	74.0	24.5	33.4	4.6	9.9	1.3
59	22	F	38.4	12.6	0.9	74.0	25.3	33.5	5.2	12.7	1.8
59	26	F	38.0	12.6	0.9	74.0	24.8	33.6	5.1	15.0	2.4
60	-3	F	48.4	17.0	0.2	68.0	23.9	35.7	7.2	11.4	0.4
60	-1	F	50.2	17.7	0.1	67.0	23.6	35.8	7.6	11.2	---
60	3	F	34.0	11.1	1.7	72.0	24.1	33.2	4.7	19.0	5.0
60	8	F	38.4	12.3	0.5	72.0	23.4	32.6	5.3	13.8	3.0
60	12	F	41.5	13.8	0.4	69.0	23.2	33.9	6.1	13.8	2.4
60	17	F	43.2	14.4	0.9	70.0	23.4	34.0	6.3	16.4	1.7
60	22	F	42.2	14.0	0.9	71.0	23.7	33.6	6.0	21.1	3.2
60	26	F	43.0	14.6	0.6	70.0	23.8	34.2	6.2	14.8	4.0

--- INDICATES NO DATA

INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E K	S E X	BUN (MG/DL)	GLUCOSE (GM/DL)	SGPT (IU/L)	SGOT (IU/L)	ALKALINE PHOSPHATASE (IU/L)	SODIUM (MEQ/L)	CHLORIDE (MEQ/L)	TOTAL PROTEIN (GM/DL)	ALBUMIN (GM/DL)
37	-3	M	14.0	104.0	13.0	14.0	92.0	146.0	103.0	6.8	4.0
37	-1	M	10.0	103.0	16.0	16.0	97.0	146.0	106.0	6.0	2.9
37	3	M	14.0	101.0	8.0	15.0	66.0	146.0	110.0	6.4	3.8
37	8	M	15.0	91.0	12.0	15.0	61.0	146.0	111.0	6.4	3.4
37	12	M	13.0	81.0	10.0	16.0	46.0	148.0	110.0	6.1	2.9
37	17	M	16.0	98.0	8.0	15.0	40.0	148.0	110.0	6.7	3.5
37	22	M	18.0	80.0	8.0	18.0	42.0	146.0	112.0	7.4	3.8
37	26	M	16.0	89.0	6.0	20.0	36.0	148.0	110.0	6.5	3.4
38	-3	M	15.0	88.0	16.0	18.0	88.0	153.0	112.0	6.5	3.6
38	-1	M	14.0	96.0	18.0	15.0	96.0	146.0	108.0	6.4	3.0
38	3	M	15.0	96.0	8.0	12.0	64.0	143.0	108.0	5.8	3.3
38	8	M	18.0	93.0	9.0	15.0	86.0	148.0	114.0	6.0	3.2
38	12	M	16.0	69.0	9.0	20.0	86.0	148.0	113.0	6.2	3.0
38	17	M	20.0	96.0	7.0	16.0	84.0	149.0	112.0	6.6	3.4
38	22	M	19.0	76.0	7.0	21.0	78.0	147.0	115.0	7.0	3.6
38	26	M	21.0	91.0	6.0	24.0	70.0	144.0	114.0	6.0	3.2
39	-3	M	10.0	108.0	20.0	19.0	54.0	148.0	116.0	6.8	4.1
39	-1	M	14.0	86.0	26.0	20.0	60.0	154.0	110.0	7.0	3.4
39	3	M	13.0	89.0	10.0	13.0	41.0	150.0	110.0	6.4	3.6
39	8	M	18.0	56.0	12.0	14.0	38.0	143.0	114.0	6.6	3.3
39	12	M	25.0	96.0	14.0	18.0	58.0	142.0	112.0	6.0	2.7
39	17	M	18.0	94.0	10.0	13.0	66.0	145.0	110.0	6.2	3.1
39	22	M	18.0	76.0	9.0	18.0	62.0	142.0	110.0	6.4	3.3
39	26	M	17.0	72.0	9.0	14.0	40.0	145.0	112.0	6.0	3.2
40	-3	M	10.0	108.0	16.0	22.0	96.0	150.0	103.0	6.6	3.8
40	-1	M	12.0	84.0	12.0	20.0	64.0	150.0	111.0	6.6	3.3
40	3	M	14.0	91.0	12.0	20.0	62.0	156.0	116.0	6.4	3.7
40	8	M	19.0	84.0	9.0	14.0	59.0	144.0	110.0	5.9	2.9
40	12	M	16.0	74.0	11.0	20.0	54.0	147.0	113.0	6.1	3.4
40	17	M	19.0	95.0	10.0	17.0	56.0	150.0	112.0	6.3	3.7
40	22	M	21.0	74.0	6.0	24.0	54.0	144.0	112.0	6.0	3.2
40	26	M	18.0	80.0	6.0	27.0	90.0	142.0	105.0	7.2	3.9
41	-3	M	15.0	71.0	20.0	28.0	96.0	142.0	104.0	7.0	3.4
41	-1	M	21.0	90.0	22.0	22.0	65.0	146.0	112.0	6.9	3.9
41	3	M	17.0	54.0	8.0	18.0	65.0	145.0	110.0	6.3	3.4
41	8	M	16.0	46.0	10.0	18.0	68.0	150.0	118.0	6.0	3.2
41	12	M	27.0	62.0	16.0	29.0	71.0	145.0	112.0	6.1	3.4
41	17	M	18.0	82.0	8.0	18.0	92.0	142.0	105.0	6.8	3.3
41	22	M	22.0	61.0	8.0	23.0	58.0	147.0	110.0	6.0	3.3
41	26	M	20.0	49.0	10.0	24.0	126.0	156.0	110.0	6.5	4.0
42	-3	M	119.0	119.0	20.0	18.0	112.0	146.0	107.0	6.7	3.5
42	-1	M	89.0	89.0	25.0	21.0	70.0	144.0	105.0	6.4	3.7
42	3	M	14.0	92.0	11.0	19.0	90.0	148.0	110.0	6.8	3.3
42	8	M	15.0	77.0	14.0	15.0	84.0	143.0	109.0	6.5	2.7
42	12	M	10.0	76.0	8.0	12.0	101.0	146.0	106.0	7.0	3.2
42	17	M	6.0	88.0	6.0	11.0	101.0	146.0	110.0	6.2	3.0
42	22	M	10.0	78.0	5.0	13.0	90.0	145.0	111.0	5.8	3.0
42	26	M	8.0	87.0	7.0	14.0	90.0	145.0	111.0	5.8	3.0

--- INDICATES NO DATA

INDIVIDUAL CLINICAL CHEMISTRY VALUES

DO G N	W E K	S E X	GLOBULIN (GM/DL)	LACTIC DEHYDROGENASE (IU/DL)	CREATINE PHOSPHOKINASE (IU/DL)	CALCIUM (MG/DL)	TRIGLYCERIDES (MG/DL)	TOTAL BILIRUBIN (MG/DL)	DIRECT BILIRUBIN (MG/DL)	CHOLESTEROL (MG/DL)	POTASSIUM (MEQ/DL)
31	-3	F	2.4	36.0	160.0	11.5	36.0	0.5	0.3	216.0	5.0
31	-1	F	3.1	32.0	174.0	11.2	33.0	0.2	0.2	194.0	4.0
31	3	F	2.7	106.0	74.0	11.8	64.0	0.2	0.3	217.0	4.0
31	8	F	3.1	64.0	86.0	10.8	52.0	0.1	0.2	262.0	4.0
31	12	F	3.1	54.0	77.0	10.8	39.0	0.1	0.2	325.0	4.0
31	17	F	3.0	72.0	55.0	11.2	32.0	0.2	0.4	235.0	4.0
31	22	F	3.4	138.0	93.0	12.1	70.0	0.4	0.6	242.0	5.0
31	26	F	3.2	62.0	40.0	11.7	48.0	0.3	0.4	238.0	4.0
32	-3	F	3.8	56.0	130.0	12.4	54.0	0.4	0.3	204.0	5.0
32	-1	F	3.4	49.0	90.0	10.9	48.0	0.2	0.2	142.0	5.0
32	3	F	2.9	138.0	76.0	11.4	50.0	0.3	0.4	161.0	4.0
32	8	F	3.2	82.0	57.0	10.2	44.0	0.1	0.2	167.0	4.0
32	12	F	3.4	44.0	52.0	10.3	42.0	0.1	0.1	170.0	4.0
32	17	F	3.6	39.0	40.0	10.8	62.0	0.1	0.2	189.0	4.0
32	22	F	3.0	65.0	53.0	11.1	50.0	0.2	0.3	186.0	5.0
32	26	F	2.7	67.0	64.0	10.6	57.0	0.4	0.5	245.0	5.0
33	-3	F	2.8	59.0	89.0	10.6	34.0	0.8	0.5	208.0	5.0
33	-1	F	3.0	42.0	116.0	10.2	38.0	0.3	0.4	181.0	5.0
33	3	F	2.8	90.0	95.0	11.6	49.0	0.2	0.2	190.0	4.0
33	8	F	2.7	79.0	82.0	11.2	35.0	0.2	0.1	189.0	5.0
33	12	F	3.2	104.0	83.0	10.8	43.0	0.1	0.1	208.0	5.0
33	17	F	3.1	52.0	48.0	10.8	50.0	0.3	0.2	230.0	5.0
33	22	F	3.5	118.0	84.0	11.6	57.0	0.3	0.2	210.0	5.0
33	26	F	3.2	110.0	55.0	13.4	55.0	0.5	0.6	282.0	4.0
34	-3	F	---	294.0	147.0	8.5	148.0	1.1	---	199.0	5.0
34	-1	F	2.8	30.0	114.0	10.2	34.0	0.2	0.2	141.0	4.0
34	3	F	2.7	89.0	86.0	11.1	39.0	0.2	0.3	138.0	4.0
34	8	F	2.8	49.0	52.0	10.5	38.0	0.1	0.1	148.0	4.0
34	12	F	2.7	44.0	41.0	11.2	65.0	0.1	0.1	148.0	4.0
34	17	F	2.7	36.0	42.0	10.6	35.0	0.0	0.1	202.0	4.0
34	22	F	2.9	36.0	53.0	12.0	33.0	0.2	0.2	136.0	4.0
34	26	F	2.6	69.0	80.0	12.0	54.0	0.4	0.5	189.0	4.0
35	-3	F	3.0	71.0	170.0	10.0	30.0	0.6	0.6	154.0	5.0
35	-1	F	3.5	82.0	116.0	10.6	26.0	0.3	0.3	158.0	4.0
35	3	F	2.9	70.0	64.0	11.4	35.0	0.2	0.3	162.0	4.0
35	8	F	3.1	96.0	58.0	10.1	41.0	0.1	0.2	154.0	4.0
35	12	F	3.3	13.0	26.0	9.9	57.0	0.2	0.3	196.0	4.0
35	17	F	3.1	76.0	57.0	10.6	35.0	0.1	0.2	192.0	5.0
35	22	F	3.0	112.0	106.0	12.0	55.0	0.2	0.2	206.0	4.0
35	26	F	3.1	126.0	70.0	10.5	49.0	0.6	0.8	341.0	4.0
36	-3	F	3.0	98.0	112.0	12.2	30.0	0.2	0.2	160.0	5.0
36	-1	F	3.0	42.0	78.0	9.9	35.0	0.2	0.3	148.0	5.0
36	3	F	2.0	89.0	68.0	11.8	35.0	0.2	0.3	130.0	5.0
36	8	F	2.5	107.0	42.0	10.7	22.0	0.1	0.2	147.0	4.0
36	12	F	2.9	59.0	33.0	10.7	28.0	0.2	0.3	148.0	4.0
36	17	F	2.9	62.0	35.0	11.2	33.0	0.1	0.2	192.0	5.0
36	22	F	3.0	134.0	64.0	13.0	41.0	0.4	0.5	255.0	5.0
36	26	F	2.6	77.0	46.0	9.7	39.0	0.4	0.6	175.0	5.0

--- INDICATES NO DATA

OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E X	S E X	BUN (MG/DL)	GLUCOSE (GM/DL)	SGPT (IU/L)	SGOT (IU/L)	ALKALINE PHOSPHATASE (IU/L)	SODIUM (MEQ/L)	CHLORIDE (MEQ/L)	TOTAL PROTEIN (GM/DL)	ALBUMIN (GM/DL)
31	-3	F	16.0	114.0	15.0	18.0	92.0	154.0	106.0	6.4	4.0
31	-1	F	18.0	105.0	16.0	22.0	62.0	142.0	108.0	6.8	3.7
31	3	F	20.0	76.0	10.0	14.0	47.0	148.0	110.0	6.4	3.7
31	8	F	18.0	68.0	12.0	14.0	53.0	146.0	106.0	6.4	3.3
31	12	F	20.0	76.0	12.0	14.0	51.0	146.0	108.0	6.3	3.2
31	17	F	18.0	89.0	16.0	19.0	26.0	150.0	108.0	6.8	3.8
31	22	F	31.0	70.0	8.0	17.0	24.0	152.0	120.0	7.4	4.0
31	26	F	15.0	101.0	7.0	---	41.0	148.0	111.0	7.2	4.0
32	-3	F	18.0	88.0	18.0	20.0	124.0	159.0	116.0	8.0	4.2
32	-1	F	18.0	84.0	17.0	17.0	106.0	144.0	136.0	6.7	3.3
32	3	F	17.0	78.0	17.0	24.0	74.0	147.0	110.0	6.7	3.8
32	8	F	20.0	74.0	14.0	19.0	80.0	148.0	113.0	6.2	3.0
32	12	F	19.0	77.0	14.0	17.0	70.0	146.0	108.0	6.0	2.6
32	17	F	22.0	70.0	16.0	18.0	83.0	152.0	108.0	7.0	3.4
32	22	F	23.0	84.0	13.0	21.0	83.0	145.0	108.0	6.1	3.1
32	26	F	24.0	90.0	15.0	16.0	92.0	146.0	110.0	5.8	3.1
33	-3	F	16.0	102.0	14.0	14.0	76.0	152.0	108.0	6.8	4.0
33	-1	F	13.0	97.0	14.0	18.0	74.0	146.0	108.0	5.9	2.9
33	3	F	18.0	82.0	10.0	15.0	54.0	146.0	112.0	6.4	3.6
33	8	F	16.0	63.0	12.0	17.0	60.0	150.0	111.0	6.4	3.7
33	12	F	17.0	74.0	13.0	20.0	47.0	148.0	112.0	6.4	3.2
33	17	F	16.0	98.0	15.0	16.0	52.0	152.0	114.0	6.9	3.8
33	22	F	17.0	67.0	13.0	18.0	57.0	146.0	112.0	7.3	3.8
33	26	F	15.0	86.0	10.0	28.0	52.0	146.0	109.0	6.6	3.4
34	-3	F	20.0	103.0	18.0	18.0	104.0	155.0	108.0	---	---
34	-1	F	20.0	90.0	17.0	20.0	86.0	146.0	106.0	6.0	3.2
34	3	F	18.0	73.0	12.0	20.0	51.0	162.0	112.0	6.0	3.3
34	8	F	17.0	65.0	13.0	18.0	44.0	146.0	110.0	6.2	3.4
34	12	F	19.0	78.0	14.0	16.0	55.0	147.0	111.0	5.8	3.1
34	17	F	23.0	84.0	10.0	18.0	62.0	146.0	108.0	5.8	3.1
34	22	F	16.0	70.0	13.0	18.0	42.0	146.0	108.0	6.4	3.5
34	26	F	22.0	67.0	12.0	16.0	77.0	145.0	115.0	5.9	3.3
35	-3	F	22.0	72.0	18.0	18.0	112.0	152.0	80.0	7.0	4.0
35	-1	F	16.0	70.0	22.0	20.0	102.0	147.0	114.0	6.4	2.9
35	3	F	19.0	77.0	15.0	16.0	69.0	148.0	110.0	6.4	3.5
35	8	F	17.0	43.0	16.0	18.0	70.0	146.0	108.0	6.6	2.9
35	12	F	16.0	70.0	16.0	14.0	84.0	150.0	108.0	6.2	2.9
35	17	F	20.0	66.0	19.0	20.0	125.0	146.0	105.0	6.6	3.5
35	22	F	17.0	55.0	17.0	21.0	126.0	148.0	106.0	6.3	3.3
35	26	F	18.0	63.0	17.0	20.0	100.0	147.0	111.0	6.6	3.5
36	-3	F	14.0	102.0	14.0	14.0	53.0	152.0	110.0	7.0	4.0
36	-1	F	14.0	102.0	18.0	14.0	63.0	146.0	115.0	6.6	3.6
36	3	F	10.0	88.0	14.0	12.0	45.0	145.0	110.0	5.8	3.8
36	8	F	12.0	44.0	14.0	13.0	36.0	148.0	109.0	6.2	3.7
36	12	F	12.0	75.0	14.0	13.0	35.0	146.0	103.0	6.2	3.3
36	17	F	15.0	92.0	10.0	11.0	31.0	149.0	106.0	6.7	3.8
36	22	F	15.0	77.0	13.0	16.0	54.0	148.0	104.0	6.6	3.6
36	26	F	11.0	77.0	8.0	14.0	23.0	150.0	110.0	6.5	3.9

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC URAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E K	S E X	GLOBULIN (GM/DL)	LACTIC DEHYDROGENASE (IU/DL)	CREATINE PHOSPHOKINASE (IU/DL)	CALCIUM (MG/DL)	TRIGLYCERIDES (MG/DL)	TOTAL BILIRUBIN (MG/DL)	DIRECT BILIRUBIN (MG/DL)	CHOLESTEROL (MG/DL)	POTASSIUM (MEQ/DL)
25	-3	M	2.6	41.0	119.0	10.0	46.0	0.3	0.1	152.0	4.0
25	-1	M	2.9	39.0	99.0	10.0	39.0	0.2	0.2	155.0	4.0
25	3	M	2.1	79.0	72.0	10.7	34.0	0.1	0.2	149.0	5.0
25	8	M	2.9	38.0	54.0	11.1	41.0	0.1	0.1	161.0	4.0
25	12	M	3.1	50.0	42.0	11.2	56.0	0.1	0.1	180.0	5.0
25	17	M	2.8	36.0	40.0	10.6	56.0	0.0	0.1	203.0	4.0
25	22	M	2.8	68.0	62.0	11.7	35.0	0.1	0.2	190.0	5.0
25	26	M	3.9	39.0	48.0	11.6	49.0	0.3	0.3	218.0	---
26	-3	M	2.1	40.0	158.0	12.2	44.0	0.4	0.1	206.0	5.0
26	-1	M	3.7	38.0	93.0	11.7	33.0	0.2	0.2	167.0	4.0
26	3	M	3.1	82.0	81.0	11.8	41.0	0.1	0.2	174.0	4.0
26	8	M	3.0	40.0	57.0	11.2	34.0	0.1	0.1	168.0	4.0
26	12	M	3.2	66.0	55.0	11.0	31.0	0.1	0.1	173.0	4.0
26	17	M	3.3	56.0	44.0	11.2	41.0	0.1	0.1	193.0	4.0
26	22	M	3.6	118.0	84.0	11.8	36.0	0.2	0.2	185.0	5.0
26	26	M	3.4	82.0	88.0	13.1	66.0	0.4	0.4	214.0	4.0
27	-3	M	3.0	44.0	120.0	9.3	44.0	0.5	0.2	142.0	4.0
27	-1	M	3.3	78.0	122.0	9.0	31.0	0.2	0.2	128.0	4.0
27	3	M	3.0	76.0	59.0	10.9	49.0	0.1	0.2	137.0	4.0
27	8	M	3.8	54.0	71.0	9.5	44.0	0.1	0.1	150.0	4.0
27	12	M	4.0	46.0	60.0	10.8	38.0	0.1	0.2	136.0	4.0
27	17	M	4.0	36.0	48.0	10.6	37.0	0.1	0.1	132.0	4.0
27	22	M	3.5	46.0	55.0	11.8	43.0	0.2	0.2	128.0	4.0
27	26	M	3.4	32.0	53.0	10.7	51.0	0.3	0.3	193.0	4.0
28	-3	M	2.9	86.0	129.0	11.1	41.0	0.4	0.5	171.0	5.0
28	-1	M	3.2	64.0	101.0	10.5	30.0	0.2	0.3	136.0	4.0
28	3	M	2.8	48.0	57.0	10.2	34.0	0.2	0.1	129.0	4.0
28	8	M	2.8	50.0	44.0	10.8	35.0	0.2	0.3	134.0	4.0
28	12	M	3.3	39.0	38.0	11.6	37.0	0.1	0.1	172.0	4.0
28	17	M	3.3	26.0	48.0	11.0	77.0	0.0	0.1	174.0	4.0
28	22	M	3.2	58.0	64.0	12.7	64.0	0.3	0.4	178.0	4.0
28	26	M	3.0	26.0	48.0	12.8	43.0	0.2	0.4	150.0	4.0
29	-3	M	2.7	41.0	116.0	11.8	55.0	0.5	0.2	279.0	5.0
29	-1	M	3.0	56.0	116.0	10.9	46.0	0.2	0.2	239.0	4.0
29	3	M	2.4	81.0	76.0	10.8	44.0	0.2	0.2	191.0	4.0
29	8	M	3.3	112.0	73.0	11.0	39.0	0.1	0.2	179.0	4.0
29	12	M	3.1	66.0	38.0	12.5	34.0	0.1	0.1	227.0	4.0
29	17	M	3.0	36.0	50.0	10.6	38.0	0.0	0.1	220.0	4.0
29	22	M	2.8	49.0	50.0	12.4	52.0	0.1	0.2	213.0	4.0
29	26	M	3.0	80.0	57.0	12.4	45.0	0.2	0.4	209.0	4.0
30	-3	M	2.9	82.0	158.0	11.0	31.0	0.5	0.6	207.0	5.0
30	-1	M	3.3	46.0	106.0	10.1	29.0	0.2	0.2	171.0	4.0
30	3	M	2.7	48.0	115.0	11.6	28.0	0.2	0.3	201.0	4.0
30	8	M	3.1	72.0	64.0	11.6	32.0	0.1	0.2	175.0	4.0
30	12	M	3.5	39.0	53.0	10.2	44.0	0.2	0.3	191.0	4.0
30	17	M	3.0	39.0	39.0	10.9	27.0	0.1	0.1	196.0	5.0
30	22	M	3.2	88.0	97.0	12.2	48.0	0.3	0.3	180.0	4.0
30	26	M	2.9	58.0	74.0	9.5	27.0	0.5	0.5	220.0	4.0

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E K	S E X	BUN (MG/DL)	GLUCOSE (GM/DL)	SGPT (IU/L)	SGOT (IU/L)	ALKALINE PHOSPHATASE (IU/L)	SODIUM (MEQ/L)	CHLORIDE (MEQ/L)	TOTAL PROTEIN (GM/DL)	ALBUMIN (GM/DL)
25	-3	M	18.0	102.0	14.0	17.0	102.0	148.0	110.0	6.4	3.8
25	-1	M	15.0	90.0	18.0	16.0	98.0	140.0	111.0	5.8	2.9
25	3	M	17.0	74.0	14.0	14.0	68.0	148.0	113.0	5.8	3.7
25	8	M	21.0	94.0	13.0	10.0	66.0	147.0	112.0	6.4	3.5
25	12	M	20.0	74.0	12.0	13.0	59.0	150.0	112.0	6.2	3.1
25	17	M	23.0	88.0	15.0	11.0	64.0	148.0	113.0	6.4	3.6
25	22	M	19.0	90.0	12.0	14.0	63.0	150.0	109.0	6.7	3.9
25	26	M	16.0	82.0	8.0	10.0	87.0	---	---	8.2	4.3
26	-3	M	15.0	116.0	22.0	16.0	74.0	152.0	112.0	6.3	4.2
26	-1	M	15.0	108.0	18.0	16.0	63.0	148.0	108.0	7.1	3.4
26	3	M	14.0	90.0	16.0	14.0	50.0	145.0	109.0	6.5	3.4
26	8	M	17.0	104.0	16.0	13.0	50.0	148.0	111.0	6.6	3.6
26	12	M	15.0	86.0	16.0	14.0	38.0	148.0	110.0	6.3	3.1
26	17	M	18.0	86.0	17.0	14.0	38.0	151.0	112.0	6.9	3.6
26	22	M	16.0	81.0	16.0	14.0	45.0	146.0	113.0	7.4	3.8
26	26	M	18.0	94.0	29.0	16.0	41.0	146.0	111.0	6.8	3.4
27	-3	M	15.0	96.0	18.0	16.0	60.0	146.0	108.0	6.8	3.8
27	-1	M	12.0	70.0	20.0	24.0	53.0	141.0	107.0	5.8	2.5
27	3	M	12.0	79.0	14.0	20.0	33.0	144.0	112.0	6.2	3.2
27	8	M	16.0	91.0	13.0	23.0	38.0	146.0	110.0	6.8	3.0
27	12	M	16.0	80.0	14.0	20.0	32.0	144.0	110.0	6.8	2.8
27	17	M	16.0	94.0	16.0	20.0	34.0	147.0	109.0	7.5	3.5
27	22	M	14.0	87.0	14.0	27.0	30.0	144.0	107.0	7.0	3.5
27	26	M	14.0	90.0	15.0	18.0	31.0	144.0	111.0	6.6	3.2
28	-3	M	10.0	82.0	14.0	20.0	100.0	150.0	114.0	6.8	3.9
28	-1	M	11.0	78.0	18.0	19.0	111.0	150.0	108.0	6.5	3.3
28	3	M	11.0	75.0	12.0	14.0	66.0	147.0	104.0	6.4	3.6
28	8	M	12.0	38.0	14.0	16.0	52.0	148.0	111.0	6.1	3.3
28	12	M	13.0	80.0	13.0	16.0	59.0	147.0	114.0	6.4	3.1
28	17	M	14.0	82.0	11.0	18.0	64.0	146.0	112.0	6.7	3.4
28	22	M	15.0	80.0	15.0	21.0	58.0	151.0	106.0	6.9	3.7
28	26	M	14.0	72.0	14.0	16.0	62.0	150.0	112.0	6.6	3.6
29	-3	M	16.0	106.0	17.0	18.0	97.0	164.0	104.0	6.5	3.8
29	-1	M	13.0	86.0	21.0	20.0	83.0	147.0	107.0	6.3	3.3
29	3	M	14.0	70.0	13.0	16.0	46.0	148.0	108.0	6.2	3.8
29	8	M	14.0	50.0	15.0	20.0	41.0	146.0	110.0	6.8	3.5
29	12	M	14.0	76.0	17.0	18.0	40.0	146.0	109.0	6.3	3.2
29	17	M	15.0	84.0	18.0	19.0	44.0	142.0	107.0	6.4	3.4
29	22	M	19.0	78.0	17.0	19.0	40.0	142.0	106.0	6.2	3.4
29	26	M	17.0	73.0	17.0	14.0	46.0	148.0	113.0	6.6	3.6
30	-3	M	16.0	104.0	16.0	19.0	88.0	150.0	---	6.6	3.7
30	-1	M	17.0	94.0	19.0	22.0	102.0	144.0	154.0	6.5	3.2
30	3	M	19.0	96.0	14.0	17.0	68.0	148.0	110.0	6.1	3.4
30	8	M	17.0	71.0	14.0	18.0	62.0	152.0	110.0	6.5	3.4
30	12	M	18.0	96.0	14.0	18.0	58.0	140.0	105.0	6.4	2.9
30	17	M	18.0	106.0	18.0	24.0	70.0	146.0	106.0	6.4	3.4
30	22	M	23.0	85.0	17.0	24.0	63.0	150.0	108.0	6.6	3.4
30	26	M	19.0	85.0	15.0	20.0	40.0	149.0	109.0	6.2	3.3

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E K	S E X	GLOBULIN (GM/DL)	LACTIC DEHYDROGENASE (IU/DL)	CREATINE PHOSPHOKINASE (IU/DL)	CALCIUM (MG/DL)	TRIGLYCERIDES (MG/DL)	TOTAL BILIRUBIN (MG/DL)	DIRECT BILIRUBIN (MG/DL)	CHOLESTEROL (MG/DL)	POTASSIUM (MEQ/DL)
19	-3	F	2.4	90.0	384.0	13.4	54.0	0.9	0.9	167.0	4.0
19	-1	F	3.4	50.0	180.0	11.7	28.0	0.2	0.3	124.0	4.0
19	3	F	2.7	74.0	126.0	11.1	28.0	0.2	0.2	121.0	4.0
19	8	F	3.1	42.0	97.0	11.3	18.0	0.1	0.2	124.0	4.0
19	12	F	3.2	44.0	75.0	11.4	26.0	0.1	0.1	123.0	4.0
19	17	F	3.2	39.0	53.0	10.6	24.0	0.1	0.2	152.0	4.0
19	22	F	3.0	85.0	62.0	11.5	30.0	0.2	0.2	145.0	4.0
19	26	F	2.6	72.0	68.0	11.4	30.0	0.4	0.5	215.0	4.0
20	-3	F	3.1	58.0	122.0	10.2	39.0	0.5	0.2	163.0	4.0
20	-1	F	3.3	52.0	108.0	11.0	36.0	0.2	0.2	135.0	6.0
20	3	F	2.3	92.0	90.0	12.0	34.0	0.1	0.2	134.0	4.0
20	8	F	2.5	81.0	77.0	11.0	34.0	0.2	0.2	131.0	4.0
20	12	F	3.0	41.0	46.0	10.8	39.0	0.1	0.1	152.0	4.0
20	17	F	2.6	62.0	40.0	11.1	40.0	0.1	0.2	169.0	4.0
20	22	F	3.2	68.0	62.0	11.7	46.0	0.2	0.2	126.0	4.0
20	26	F	3.6	48.0	50.0	---	61.0	0.3	0.4	128.0	4.0
21	-3	F	2.9	49.0	159.0	10.2	62.0	0.2	0.4	138.0	5.0
21	-1	F	3.4	96.0	152.0	10.3	36.0	0.1	0.2	128.0	4.0
21	3	F	2.6	46.0	77.0	10.9	41.0	0.1	0.2	138.0	5.0
21	8	F	3.1	54.0	72.0	10.5	30.0	0.1	0.2	124.0	4.0
21	12	F	3.7	156.0	87.0	11.4	35.0	0.2	0.2	231.0	4.0
21	17	F	3.1	88.0	73.0	9.9	51.0	0.1	0.2	194.0	4.0
21	22	F	3.0	154.0	171.0	12.3	52.0	0.4	0.6	206.0	4.0
21	26	F	2.7	82.0	82.0	11.7	61.0	0.3	0.5	186.0	4.0
22	-3	F	2.0	56.0	152.0	11.8	36.0	0.2	0.2	165.0	4.0
22	-1	F	3.3	60.0	122.0	10.6	57.0	0.2	0.2	147.0	4.0
22	3	F	2.8	70.0	91.0	11.4	62.0	0.1	0.2	208.0	4.0
22	8	F	3.0	36.0	58.0	10.4	47.0	0.1	0.2	211.0	4.0
22	12	F	3.5	42.0	55.0	10.2	49.0	0.1	0.2	228.0	4.0
22	17	F	3.7	36.0	42.0	11.0	59.0	0.1	0.2	254.0	4.0
22	22	F	3.1	32.0	55.0	11.6	45.0	0.2	0.3	287.0	4.0
22	26	F	2.8	36.0	82.0	10.8	56.0	0.3	0.4	395.0	4.0
23	-3	F	2.2	59.0	87.0	12.1	38.0	0.3	0.2	135.0	4.0
23	-1	F	3.1	92.0	131.0	10.6	33.0	0.2	0.3	152.0	4.0
23	3	F	2.7	56.0	77.0	11.2	30.0	0.2	0.2	167.0	4.0
23	8	F	3.7	31.0	92.0	12.0	45.0	0.1	0.1	156.0	4.0
23	12	F	3.8	29.0	75.0	12.0	33.0	0.1	0.1	170.0	4.0
23	17	F	4.0	49.0	64.0	10.4	53.0	0.1	0.2	188.0	4.0
23	22	F	3.6	26.0	44.0	11.8	45.0	0.2	0.2	188.0	4.0
23	26	F	3.8	39.0	52.0	11.4	51.0	0.4	0.4	289.0	4.0
24	-3	F	3.0	30.0	167.0	10.2	39.0	0.4	0.3	162.0	5.0
24	-1	F	3.6	82.0	185.0	11.2	30.0	0.2	0.3	153.0	5.0
24	3	F	2.8	86.0	157.0	12.2	32.0	0.1	0.2	187.0	5.0
24	8	F	2.9	72.0	116.0	10.7	46.0	0.1	0.2	194.0	4.0
24	12	F	3.3	50.0	137.0	10.8	44.0	0.1	0.1	169.0	4.0
24	17	F	3.4	46.0	80.0	11.8	59.0	0.1	0.2	200.0	4.0
24	22	F	3.1	39.0	71.0	11.8	57.0	0.2	0.2	247.0	4.0
24	26	F	2.9	69.0	104.0	10.9	84.0	0.4	0.4	380.0	4.0

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	M E E K	S E X	BUN (MG/DL)	GLUCOSE (GM/DL)	SGPT (IU/L)	SGOT (IU/L)	ALKALINE PHOSPHATASE (IU/L)	SODIUM (MEQ/L)	CHLORIDE (MEQ/L)	TOTAL PROTEIN (GM/DL)	ALBUMIN (GM/DL)
19	-3	F	20.0	103.0	24.0	31.0	88.0	151.0	111.0	7.0	4.6
19	-1	F	18.0	102.0	25.0	24.0	90.0	143.0	114.0	7.1	3.7
19	3	F	20.0	70.0	23.0	20.0	56.0	148.0	110.0	6.6	3.9
19	8	F	23.0	102.0	18.0	17.0	48.0	148.0	112.0	7.0	3.9
19	12	F	19.0	94.0	20.0	22.0	40.0	147.0	110.0	6.8	3.6
19	17	F	23.0	104.0	23.0	20.0	40.0	146.0	112.0	7.2	4.0
19	22	F	22.0	97.0	21.0	21.0	45.0	152.0	110.0	7.4	4.4
19	26	F	20.0	97.0	20.0	28.0	32.0	151.0	112.0	6.4	3.8
20	-3	F	12.0	82.0	16.0	16.0	49.0	153.0	108.0	7.2	4.1
20	-1	F	13.0	85.0	16.0	15.0	53.0	149.0	110.0	6.6	3.3
20	3	F	16.0	87.0	14.0	16.0	44.0	148.0	112.0	6.3	4.0
20	8	F	13.0	70.0	14.0	17.0	35.0	148.0	108.0	6.1	3.6
20	12	F	16.0	81.0	14.0	14.0	32.0	146.0	108.0	6.2	3.2
20	17	F	15.0	85.0	13.0	12.0	32.0	150.0	110.0	6.4	3.8
20	22	F	16.0	70.0	16.0	22.0	52.0	145.0	114.0	7.2	4.0
20	26	F	16.0	84.0	8.0	---	61.0	149.0	112.0	7.8	4.2
21	-3	F	15.0	109.0	18.0	21.0	51.0	147.0	120.0	6.5	3.6
21	-1	F	20.0	82.0	17.0	22.0	64.0	152.0	108.0	6.5	3.1
21	3	F	19.0	87.0	13.0	16.0	35.0	148.0	111.0	6.4	3.8
21	8	F	15.0	54.0	14.0	17.0	31.0	146.0	112.0	6.4	3.3
21	12	F	18.0	82.0	14.0	17.0	58.0	146.0	108.0	6.6	2.9
21	17	F	13.0	92.0	8.0	16.0	31.0	142.0	110.0	6.1	3.0
21	22	F	16.0	84.0	17.0	23.0	30.0	144.0	108.0	6.6	3.6
21	26	F	13.0	73.0	16.0	16.0	26.0	144.0	108.0	6.0	3.3
22	-3	F	22.0	98.0	16.0	17.0	81.0	144.0	103.0	6.6	4.6
22	-1	F	21.0	91.0	23.0	20.0	90.0	144.0	103.0	6.4	3.1
22	3	F	20.0	96.0	17.0	18.0	68.0	144.0	111.0	6.4	3.6
22	8	F	19.0	80.0	21.0	17.0	80.0	146.0	109.0	6.6	3.6
22	12	F	16.0	89.0	19.0	14.0	75.0	147.0	107.0	6.8	3.4
22	17	F	20.0	111.0	15.0	12.0	84.0	148.0	111.0	7.4	3.7
22	22	F	20.0	95.0	13.0	16.0	100.0	146.0	108.0	6.7	3.6
22	26	F	19.0	104.0	21.0	14.0	84.0	146.0	111.0	6.6	3.8
23	-3	F	12.0	106.0	9.0	15.0	80.0	146.0	128.0	6.4	4.2
23	-1	F	10.0	95.0	18.0	21.0	66.0	144.0	109.0	6.3	3.2
23	3	F	13.0	91.0	14.0	16.0	50.0	148.0	110.0	6.2	3.5
23	8	F	16.0	104.0	14.0	15.0	46.0	144.0	112.0	7.4	3.7
23	12	F	12.0	106.0	16.0	19.0	50.0	144.0	105.0	6.8	3.0
23	17	F	12.0	100.0	17.0	18.0	72.0	147.0	111.0	7.2	3.2
23	22	F	14.0	98.0	14.0	16.0	82.0	147.0	110.0	7.0	3.6
23	26	F	14.0	82.0	16.0	14.0	56.0	144.0	111.0	7.0	3.2
24	-3	F	17.0	105.0	19.0	25.0	92.0	153.0	118.0	7.0	4.0
24	-1	F	18.0	84.0	20.0	24.0	90.0	146.0	109.0	6.6	3.0
24	3	F	22.0	85.0	22.0	27.0	70.0	146.0	110.0	6.7	3.9
24	8	F	22.0	84.0	18.0	26.0	64.0	146.0	112.0	6.4	3.5
24	12	F	18.0	78.0	18.0	27.0	62.0	146.0	110.0	6.4	3.1
24	17	F	22.0	89.0	18.0	25.0	70.0	151.0	114.0	7.2	3.8
24	22	F	21.0	65.0	11.0	23.0	76.0	148.0	105.0	6.4	3.3
24	26	F	25.0	92.0	16.0	32.0	60.0	149.0	111.0	6.4	3.5

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

DOGS	SEX	GLOBULIN (GM/DL)	LACTIC DEHYDROGENASE (IU/DL)	CREATINE PHOSPHOKINASE (IU/DL)	CALCIUM (MG/DL)	TRIGLYCERIDES (MG/DL)	TOTAL BILIRUBIN (MG/DL)	DIRECT BILIRUBIN (MG/DL)	CHOLESTEROL (MG/DL)	POTASSIUM (MEQ/DL)
13-3	M	2.7	32.0	147.0	11.8	59.0	0.4	0.2	217.0	4.0
13-1	M	3.2	32.0	190.0	10.8	39.0	0.2	0.3	204.0	4.0
13-3	M	2.8	52.0	117.0	11.0	51.0	0.2	0.3	185.0	4.0
13-8	M	2.9	34.0	60.0	10.9	43.0	0.0	0.1	185.0	4.0
13-12	M	3.3	41.0	104.0	11.2	80.0	0.2	0.4	179.0	5.0
13-17	M	3.1	39.0	66.0	10.5	33.0	0.1	0.1	194.0	4.0
13-22	M	3.1	52.0	88.0	12.2	66.0	0.2	0.3	170.0	4.0
13-26	M	3.4	30.0	72.0	9.3	54.0	0.3	0.3	261.0	4.0
14-3	M	2.7	108.0	127.0	10.3	36.0	1.4	1.9	118.0	4.0
14-1	M	2.6	36.0	97.0	10.4	34.0	0.2	0.2	167.0	4.0
14-3	M	2.6	60.0	79.0	11.5	45.0	0.2	0.3	151.0	5.0
14-8	M	2.6	52.0	44.0	10.9	36.0	0.0	0.1	144.0	4.0
14-12	M	2.9	42.0	35.0	10.0	45.0	0.1	0.2	140.0	5.0
14-17	M	2.8	39.0	50.0	10.6	35.0	0.0	0.1	162.0	5.0
14-22	M	2.9	46.0	53.0	11.8	50.0	0.2	0.2	147.0	4.0
14-26	M	2.7	52.0	56.0	8.9	45.0	0.3	0.4	209.0	4.0
15-3	M	3.0	99.0	65.0	10.8	47.0	0.7	0.2	192.0	5.0
15-1	M	3.4	79.0	104.0	10.6	30.0	0.2	0.3	182.0	5.0
15-3	M	3.1	59.0	85.0	12.2	38.0	0.2	0.2	187.0	5.0
15-8	M	2.8	117.0	68.0	11.4	33.0	0.1	0.1	155.0	5.0
15-12	M	3.3	62.0	88.0	10.8	36.0	0.2	0.3	177.0	4.0
15-17	M	3.2	78.0	64.0	10.4	42.0	0.0	0.1	192.0	5.0
15-22	M	3.4	59.0	57.0	11.7	46.0	0.2	0.2	163.0	4.0
15-26	M	3.4	100.0	56.0	10.2	46.0	0.4	0.5	186.0	4.0
16-3	M	2.8	34.0	136.0	10.0	36.0	0.4	0.2	185.0	4.0
16-1	M	3.3	58.0	178.0	10.7	34.0	0.3	0.3	163.0	4.0
16-3	M	2.9	68.0	114.0	11.1	43.0	0.1	0.2	158.0	4.0
16-8	M	2.8	50.0	70.0	10.8	35.0	0.0	0.1	148.0	4.0
16-12	M	2.8	76.0	62.0	12.0	50.0	0.1	0.1	152.0	4.0
16-17	M	3.0	52.0	53.0	10.6	33.0	0.0	0.1	159.0	4.0
16-22	M	3.0	46.0	68.0	11.8	43.0	0.2	0.2	127.0	4.0
16-26	M	2.9	49.0	40.0	10.9	95.0	0.3	0.3	181.0	4.0
17-3	M	2.2	148.0	110.0	11.2	40.0	0.5	0.3	160.0	4.0
17-1	M	2.9	39.0	114.0	11.2	34.0	0.2	0.3	155.0	4.0
17-3	M	2.8	54.0	112.0	11.0	47.0	0.1	0.2	144.0	4.0
17-8	M	2.8	64.0	73.0	10.8	35.0	0.0	0.1	132.0	4.0
17-12	M	3.0	49.0	75.0	10.6	47.0	0.1	0.2	131.0	4.0
17-17	M	3.0	32.0	46.0	11.2	31.0	0.1	0.2	130.0	4.0
17-22	M	2.4	46.0	55.0	11.3	33.0	0.2	0.3	127.0	4.0
17-26	M	2.3	54.0	78.0	11.8	32.0	0.5	0.6	253.0	4.0
18-3	M	2.8	40.0	96.0	10.8	44.0	0.3	0.3	172.0	4.0
18-1	M	3.2	41.0	138.0	10.6	42.0	0.1	0.2	157.0	4.0
18-3	M	2.7	49.0	97.0	11.4	45.0	0.2	0.2	160.0	5.0
18-8	M	2.8	68.0	115.0	11.2	33.0	0.1	0.1	157.0	4.0
18-12	M	2.7	40.0	72.0	10.6	27.0	0.0	0.1	148.0	4.0
18-17	M	2.8	42.0	48.0	11.0	44.0	0.0	0.1	161.0	5.0
18-22	M	3.0	56.0	68.0	11.7	30.0	0.2	0.2	157.0	4.0
18-26	M	3.0	52.0	42.0	12.1	34.0	0.2	0.2	166.0	4.0

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E K	S E X	BUN (MG/DL)	GLUCOSE (GM/DL)	SGPT (IU/L)	SGOT (IU/L)	ALKALINE PHOSPHATASE (IU/L)	SODIUM (MEQ/L)	CHLORIDE (MEQ/L)	TOTAL PROTEIN (GM/DL)	ALBUMIN (GM/DL)
13	-3	M	18.0	110.0	14.0	18.0	66.0	152.0	110.0	6.8	4.1
13	-1	M	17.0	110.0	20.0	26.0	78.0	146.0	109.0	6.4	3.2
13	3	M	15.0	93.0	15.0	20.0	52.0	147.0	110.0	6.1	3.3
13	8	M	17.0	72.0	18.0	19.0	37.0	152.0	112.0	6.3	3.4
13	12	M	21.0	96.0	33.0	30.0	36.0	144.0	116.0	6.3	3.0
13	17	M	18.0	102.0	20.0	19.0	38.0	146.0	111.0	6.3	3.2
13	22	M	19.0	88.0	26.0	24.0	35.0	146.0	107.0	6.5	3.4
13	26	M	18.0	86.0	16.0	16.0	40.0	147.0	112.0	6.4	3.3
14	-3	M	10.0	101.0	18.0	20.0	94.0	144.0	100.0	6.5	3.8
14	-1	M	10.0	108.0	22.0	16.0	92.0	147.0	110.0	5.6	3.0
14	3	M	12.0	90.0	14.0	13.0	62.0	148.0	114.0	6.2	3.6
14	8	M	12.0	75.0	18.0	12.0	56.0	148.0	110.0	6.0	3.4
14	12	M	13.0	90.0	17.0	12.0	56.0	147.0	103.0	5.9	3.0
14	17	M	16.0	102.0	23.0	15.0	68.0	142.0	108.0	6.2	3.4
14	22	M	10.0	91.0	23.0	15.0	73.0	148.0	108.0	6.3	3.4
14	26	M	15.0	78.0	20.0	10.0	72.0	146.0	114.0	6.1	3.4
15	-3	M	13.0	90.0	16.0	12.0	89.0	152.0	105.0	6.8	3.8
15	-1	M	11.0	102.0	20.0	14.0	80.0	144.0	108.0	6.8	3.4
15	3	M	15.0	92.0	16.0	12.0	51.0	147.0	108.0	7.2	4.1
15	8	M	14.0	62.0	18.0	13.0	39.0	148.0	108.0	6.8	4.0
15	12	M	12.0	94.0	24.0	16.0	39.0	146.0	104.0	6.7	3.4
15	17	M	14.0	110.0	24.0	19.0	58.0	146.0	108.0	6.6	3.4
15	22	M	16.0	90.0	24.0	17.0	53.0	150.0	104.0	6.8	3.4
15	26	M	15.0	82.0	23.0	16.0	54.0	148.0	110.0	6.8	3.4
16	-3	M	14.0	107.0	17.0	16.0	104.0	148.0	100.0	7.0	4.2
16	-1	M	10.0	72.0	20.0	22.0	88.0	146.0	109.0	6.4	3.1
16	3	M	13.0	84.0	16.0	17.0	65.0	148.0	109.0	6.6	3.8
16	8	M	15.0	71.0	20.0	16.0	52.0	148.0	108.0	6.4	3.6
16	12	M	17.0	91.0	20.0	14.0	52.0	146.0	108.0	6.2	3.4
16	17	M	15.0	98.0	28.0	14.0	78.0	146.0	108.0	6.5	3.5
16	22	M	16.0	95.0	26.0	19.0	56.0	146.0	100.0	6.6	3.6
16	26	M	18.0	80.0	23.0	12.0	54.0	143.0	110.0	6.3	3.4
17	-3	M	17.0	82.0	20.0	16.0	60.0	150.0	104.0	6.0	3.8
17	-1	M	16.0	99.0	26.0	18.0	63.0	148.0	106.0	6.4	3.5
17	3	M	19.0	102.0	24.0	20.0	47.0	149.0	116.0	6.2	3.6
17	8	M	16.0	90.0	25.0	19.0	42.0	147.0	110.0	6.4	3.3
17	12	M	14.0	92.0	23.0	16.0	40.0	146.0	110.0	6.3	3.3
17	17	M	16.0	90.0	26.0	17.0	41.0	152.0	112.0	7.0	4.0
17	22	M	14.0	95.0	24.0	17.0	42.0	145.0	106.0	6.0	3.6
17	26	M	25.0	102.0	24.0	16.0	38.0	147.0	112.0	5.8	3.5
18	-3	M	11.0	92.0	14.0	16.0	62.0	151.0	91.0	6.4	3.6
18	-1	M	11.0	98.0	18.0	18.0	70.0	148.0	112.0	6.5	3.3
18	3	M	16.0	88.0	14.0	16.0	48.0	148.0	110.0	6.4	3.7
18	8	M	14.0	60.0	16.0	19.0	53.0	150.0	110.0	6.7	3.9
18	12	M	13.0	78.0	14.0	18.0	34.0	150.0	112.0	6.0	3.3
18	17	M	18.0	92.0	17.0	16.0	34.0	150.0	114.0	6.5	3.7
18	22	M	14.0	74.0	14.0	16.0	34.0	149.0	114.0	6.8	3.8
18	26	M	13.0	93.0	16.0	20.0	32.0	152.0	110.0	6.9	3.9

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E K	S E X	GLOBULIN (GM/DL)	LACTIC DEHYDROGENASE (IU/DL)	CREATINE PHOSPHOKINASE (IU/DL)	CALCIUM (MG/DL)	TRIGLYCERIDES (MG/DL)	TOTAL BILIRUBIN (MG/DL)	DIRECT BILIRUBIN (MG/DL)	CHOLESTEROL (MG/DL)	POTASSIUM (MEQ/DL)
7	-3	F	2.1	80.0	114.0	12.4	46.0	0.3	0.2	188.0	5.0
7	-1	F	2.8	34.0	87.0	10.8	43.0	0.2	0.3	147.0	4.0
7	3	F	2.6	114.0	86.0	12.0	38.0	0.3	0.4	150.0	4.0
7	8	F	2.6	88.0	46.0	11.2	35.0	0.1	0.2	151.0	4.0
7	12	F	3.0	112.0	46.0	11.0	38.0	0.4	0.7	192.0	4.0
7	17	F	3.3	56.0	42.0	11.4	30.0	0.0	0.1	164.0	5.0
7	22	F	3.3	128.0	86.0	12.8	37.0	0.3	0.4	167.0	4.0
7	26	F	3.0	177.0	84.0	9.8	40.0	0.7	1.0	187.0	4.0
8	-3	F	2.6	92.0	118.0	9.3	60.0	0.5	0.6	171.0	4.0
8	-1	F	2.8	68.0	108.0	11.0	34.0	0.2	0.3	225.0	4.0
8	3	F	2.9	68.0	67.0	12.3	52.0	0.1	0.2	227.0	4.0
8	8	F	2.5	66.0	56.0	10.5	43.0	0.1	0.2	212.0	4.0
8	12	F	3.0	32.0	50.0	11.0	47.0	0.0	0.1	219.0	4.0
8	17	F	3.4	42.0	40.0	11.4	53.0	0.2	0.3	375.0	4.0
8	22	F	2.9	46.0	50.0	12.2	75.0	0.2	0.3	228.0	4.0
8	26	F	3.0	52.0	60.0	11.6	46.0	0.4	0.4	363.0	4.0
9	-3	F	2.6	52.0	165.0	11.4	42.0	0.4	0.4	131.0	4.0
9	-1	F	3.0	56.0	144.0	11.3	40.0	0.2	0.2	133.0	4.0
9	3	F	2.3	38.0	128.0	11.2	58.0	0.2	0.3	148.0	4.0
9	8	F	3.0	58.0	80.0	11.0	50.0	0.2	0.3	154.0	4.0
9	12	F	3.1	54.0	82.0	11.6	79.0	0.2	0.2	176.0	5.0
9	17	F	2.9	29.0	71.0	10.5	40.0	0.1	0.1	167.0	4.0
9	22	F	2.8	56.0	106.0	12.7	62.0	0.1	0.2	170.0	4.0
9	26	F	2.9	22.0	84.0	12.8	47.0	0.2	0.3	123.0	4.0
10	-3	F	2.6	58.0	137.0	10.2	42.0	0.3	0.2	140.0	4.0
10	-1	F	3.1	63.0	158.0	10.9	44.0	0.2	0.3	141.0	4.0
10	3	F	2.4	74.0	77.0	11.6	65.0	0.3	0.3	145.0	4.0
10	8	F	2.8	122.0	86.0	10.7	62.0	0.2	0.3	152.0	4.0
10	12	F	2.9	56.0	61.0	10.6	66.0	0.1	0.1	152.0	4.0
10	17	F	2.8	42.0	42.0	10.5	84.0	0.1	0.2	180.0	4.0
10	22	F	3.0	116.0	80.0	11.5	74.0	0.3	0.5	249.0	4.0
10	26	F	2.6	45.0	28.0	11.7	88.0	0.3	0.3	221.0	4.0
11	-3	F	3.0	158.0	203.0	12.1	178.0	0.6	0.7	284.0	5.0
11	-1	F	3.6	48.0	153.0	11.4	39.0	0.2	0.2	274.0	4.0
11	3	F	2.9	142.0	122.0	11.9	35.0	0.2	0.3	248.0	4.0
11	8	F	2.7	78.0	97.0	10.4	51.0	0.1	0.2	228.0	4.0
11	12	F	2.9	46.0	112.0	11.0	55.0	0.1	0.1	239.0	4.0
11	17	F	3.3	59.0	57.0	11.4	48.0	0.2	0.2	307.0	4.0
11	22	F	2.4	76.0	75.0	12.0	60.0	0.3	0.4	290.0	4.0
11	26	F	2.8	34.0	55.0	11.0	88.0	0.6	1.0	438.0	4.0
12	-3	F	2.6	94.0	174.0	11.7	52.0	0.8	1.0	140.0	5.0
12	-1	F	3.4	90.0	209.0	11.0	46.0	0.5	0.7	143.0	4.0
12	3	F	2.5	79.0	71.0	11.6	42.0	0.2	0.3	145.0	4.0
12	8	F	2.8	54.0	55.0	10.7	42.0	0.1	0.1	152.0	4.0
12	12	F	3.0	39.0	31.0	10.0	41.0	0.2	0.3	137.0	4.0
12	17	F	2.8	42.0	52.0	10.6	30.0	0.0	0.1	151.0	4.0
12	22	F	2.7	128.0	---	12.2	47.0	0.5	0.7	141.0	4.0
12	26	F	2.5	48.0	52.0	9.4	36.0	0.4	0.5	148.0	4.0

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E K	S E X	BUN (MG/DL)	GLUCOSE (GM/DL)	SGPT (IU/L)	SGOT (IU/L)	ALKALINE PHOSPHATASE (IU/L)	SODIUM (MEQ/L)	CHLORIDE (MEQ/L)	TOTAL PROTEIN (GM/DL)	ALBUMIN (GM/DL)
7	-3	F	15.0	100.0	18.0	18.0	100.0	152.0	114.0	6.3	4.2
7	-1	F	22.0	109.0	---	22.0	100.0	149.0	106.0	6.4	3.6
7	3	F	15.0	86.0	17.0	15.0	54.0	148.0	108.0	6.3	3.7
7	8	F	19.0	72.0	16.0	16.0	34.0	147.0	108.0	6.2	3.6
7	12	F	15.0	88.0	19.0	16.0	31.0	150.0	100.0	6.0	3.0
7	17	F	14.0	93.0	17.0	17.0	30.0	146.0	107.0	6.8	3.5
7	22	F	15.0	76.0	23.0	24.0	41.0	151.0	105.0	7.0	3.7
7	26	F	13.0	80.0	18.0	---	32.0	150.0	111.0	6.8	3.8
8	-3	F	15.0	92.0	24.0	20.0	64.0	143.0	106.0	6.6	4.0
8	-1	F	14.0	94.0	30.0	19.0	52.0	146.0	110.0	6.0	3.2
8	3	F	18.0	86.0	24.0	18.0	41.0	146.0	109.0	6.8	3.9
8	8	F	12.0	96.0	22.0	16.0	32.0	146.0	110.0	6.2	3.7
8	12	F	16.0	97.0	24.0	14.0	25.0	143.0	108.0	6.4	3.4
8	17	F	20.0	100.0	28.0	13.0	24.0	146.0	109.0	7.1	3.7
8	22	F	16.0	90.0	17.0	19.0	28.0	147.0	104.0	6.5	3.6
8	26	F	15.0	106.0	26.0	18.0	20.0	151.0	109.0	6.7	3.7
9	-3	F	17.0	97.0	16.0	18.0	68.0	148.0	112.0	6.5	3.9
9	-1	F	19.0	102.0	18.0	19.0	74.0	153.0	110.0	6.5	3.5
9	3	F	20.0	96.0	22.0	18.0	55.0	146.0	112.0	4.2	4.2
9	8	F	20.0	54.0	20.0	16.0	56.0	147.0	112.0	6.8	3.8
9	12	F	25.0	105.0	24.0	18.0	52.0	146.0	112.0	6.4	3.3
9	17	F	20.0	100.0	26.0	18.0	58.0	144.0	110.0	6.5	3.6
9	22	F	25.0	91.0	28.0	22.0	74.0	144.0	114.0	6.4	3.6
9	26	F	17.0	91.0	33.0	16.0	60.0	155.0	118.0	6.9	4.0
10	-3	F	15.0	98.0	16.0	20.0	64.0	150.0	110.0	6.8	4.2
10	-1	F	10.0	84.0	20.0	24.0	69.0	147.0	105.0	6.2	3.1
10	3	F	17.0	86.0	19.0	21.0	47.0	148.0	115.0	6.2	3.8
10	8	F	15.0	80.0	20.0	23.0	46.0	150.0	116.0	6.4	3.6
10	12	F	12.0	84.0	18.0	22.0	36.0	152.0	112.0	6.0	3.1
10	17	F	15.0	90.0	18.0	16.0	34.0	148.0	114.0	6.5	3.7
10	22	F	14.0	84.0	19.0	19.0	28.0	146.0	116.0	6.8	3.8
10	26	F	14.0	94.0	18.0	28.0	32.0	145.0	116.0	6.0	3.4
11	-3	F	16.0	73.0	14.0	22.0	79.0	156.0	---	7.0	4.0
11	-1	F	15.0	76.0	19.0	18.0	83.0	147.0	109.0	7.2	3.6
11	3	F	18.0	78.0	18.0	23.0	59.0	146.0	114.0	6.6	3.7
11	8	F	18.0	84.0	17.0	21.0	50.0	151.0	112.0	6.2	3.5
11	12	F	18.0	82.0	16.0	20.0	51.0	145.0	108.0	6.4	3.5
11	17	F	15.0	88.0	16.0	16.0	43.0	146.0	110.0	7.4	4.1
11	22	F	19.0	79.0	11.0	17.0	31.0	148.0	108.0	6.2	3.8
11	26	F	25.0	95.0	22.0	20.0	40.0	148.0	110.0	6.4	3.6
12	-3	F	19.0	82.0	16.0	25.0	99.0	159.0	---	6.5	3.9
12	-1	F	16.0	88.0	18.0	24.0	96.0	140.0	120.0	6.7	3.3
12	3	F	21.0	72.0	16.0	17.0	60.0	148.0	112.0	6.2	3.7
12	8	F	15.0	48.0	16.0	17.0	56.0	150.0	112.0	6.4	3.6
12	12	F	17.0	74.0	17.0	14.0	53.0	146.0	108.0	6.0	3.0
12	17	F	20.0	80.0	20.0	18.0	64.0	146.0	110.0	6.4	3.6
12	22	F	18.0	70.0	20.0	34.0	68.0	148.0	104.0	6.3	3.6
12	26	F	19.0	60.0	15.0	16.0	52.0	150.0	113.0	6.1	3.6

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G	W	E E K	S E X	GLOBULIN (GM/DL)	LACTIC DEHYDROGENASE (IU/DL)	CREATINE PHOSPHOKINASE (IU/DL)	CALCIUM (MG/DL)	TRIGLYCERIDES (MG/DL)	TOTAL BILIRUBIN (MG/DL)	DIRECT BILIRUBIN (MG/DL)	CHOLESTEROL (MG/DL)	POTASSIUM (MEQ/DL)
1	-3	M		3.1	100.0	156.0	12.3	44.0	0.6	0.4	143.0	5.0
1	-1	M		3.4	59.0	124.0	11.6	36.0	0.2	0.3	125.0	
1	3	M		2.5	90.0	103.0	11.6	32.0	0.2	0.3	119.0	4.0
1	8	M		2.7	36.0	70.0	12.1	17.0	0.0	0.2	90.0	4.0
1	12	M		2.9	54.0	52.0	11.2	26.0	0.0	0.1	98.0	4.0
1	17	M		2.9	52.0	38.0	10.8	39.0	0.1	0.2	110.0	4.0
1	22	M		2.8	79.0	46.0	11.7	28.0	0.1	0.2	103.0	4.0
1	26	M		2.7	30.0	41.0	12.4	37.0	0.3	0.3	178.0	4.0
2	-3	M		3.1	64.0	122.0	10.3	53.0	0.6	1.1	162.0	4.0
2	-1	M		3.6	48.0	94.0	10.8	26.0	0.1	0.2	162.0	5.0
2	3	M		3.0	44.0	71.0	11.6	38.0	0.1	0.2	160.0	4.0
2	8	M		3.1	49.0	82.0	11.2	56.0	0.1	0.1	168.0	4.0
2	12	M		3.4	52.0	70.0	11.6	48.0	0.1	0.1	155.0	4.0
2	17	M		3.2	46.0	64.0	11.0	53.0	0.1	0.2	162.0	4.0
2	22	M		3.7	56.0	66.0	12.4	47.0	0.2	0.3	165.0	4.0
2	26	M		3.3	45.0	32.0	12.0	62.0	0.2	0.3	201.0	4.0
3	-3	M		2.3	72.0	136.0	10.6	34.0	0.4	0.5	142.0	4.0
3	-1	M		3.5	116.0	104.0	10.5	44.0	0.2	0.3	142.0	4.0
3	3	M		2.1	106.0	98.0	11.0	42.0	0.1	0.2	137.0	4.0
3	8	M		2.8	62.0	66.0	10.8	32.0	0.2	0.4	131.0	4.0
3	12	M		2.6	33.0	44.0	12.1	31.0	0.1	0.0	154.0	4.0
3	17	M		2.9	58.0	55.0	11.2	30.0	0.1	0.1	153.0	4.0
3	22	M		2.8	72.0	68.0	12.4	38.0	0.2	0.2	135.0	4.0
3	26	M		2.7	50.0	64.0	12.8	38.0	0.2	0.4	106.0	4.0
4	-3	M		1.8	76.0	125.0	11.8	51.0	1.0	1.3	159.0	5.0
4	-1	M		3.5	38.0	199.0	11.4	40.0	0.2	0.3	168.0	4.0
4	3	M		3.0	48.0	155.0	11.3	58.0	0.2	0.2	188.0	4.0
4	8	M		2.9	32.0	94.0	10.6	42.0	0.1	0.2	172.0	4.0
4	12	M		3.1	26.0	70.0	10.9	36.0	0.1	0.1	166.0	4.0
4	17	M		3.3	19.0	46.0	11.2	41.0	0.1	0.1	167.0	5.0
4	22	M		2.5	19.0	64.0	11.2	29.0	0.2	0.3	159.0	4.0
4	26	M		2.4	25.0	60.0	11.8	38.0	0.4	0.4	210.0	4.0
5	-3	M		2.8	79.0	137.0	11.2	38.0	0.4	0.3	177.0	5.0
5	-1	M		3.3	82.0	109.0	10.8	36.0	0.2	0.3	149.0	5.0
5	3	M		2.2	76.0	82.0	11.0	39.0	0.1	0.2	148.0	4.0
5	8	M		2.7	34.0	116.0	11.2	44.0	0.1	0.1	140.0	4.0
5	12	M		3.0	36.0	119.0	11.2	58.0	0.1	0.1	132.0	4.0
5	17	M		3.2	59.0	88.0	10.6	71.0	0.1	0.2	167.0	4.0
5	22	M		2.8	49.0	84.0	11.0	75.0	0.3	0.3	158.0	4.0
5	26	M		2.8	107.0	68.0	11.8	46.0	1.0	1.1	237.0	4.0
6	-3	M		2.9	64.0	222.0	11.5	40.0	0.3	0.2	130.0	4.0
6	-1	M		2.6	84.0	178.0	10.7	29.0	0.3	0.4	190.0	4.0
6	3	M		2.5	154.0	137.0	12.0	42.0	0.2	0.3	179.0	4.0
6	8	M		2.6	46.0	146.0	11.4	45.0	0.1	0.1	193.0	4.0
6	12	M		3.0	60.0	146.0	11.6	43.0	0.1	0.1	187.0	5.0
6	17	M		2.9	29.0	50.0	10.9	40.0	0.0	0.1	185.0	4.0
6	22	M		3.4	82.0	66.0	12.0	41.0	0.1	0.2	188.0	4.0
6	26	M		3.0	36.0	48.0	12.6	47.0	0.2	0.3	211.0	4.0

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E K	S E X	BUN (MG/DL)	GLUCOSE (GM/DL)	SGPT (IU/L)	SGOT (IU/L)	ALKALINE PHOSPHATASE (IU/L)	SODIUM (MEQ/L)	CHLORIDE (MEQ/L)	TOTAL PROTEIN (GM/DL)	ALBUMIN (GM/DL)
1	-3	M	12.0	91.0	16.0	20.0	82.0	152.0	108.0	7.2	4.1
1	-1	M	11.0	97.0	16.0	19.0	88.0	---	109.0	7.0	3.6
1	3	M	12.0	75.0	18.0	19.0	51.0	152.0	110.0	6.4	3.9
1	8	M	12.0	100.0	18.0	14.0	44.0	151.0	112.0	6.6	3.9
1	12	M	12.0	96.0	18.0	17.0	35.0	145.0	109.0	6.2	3.3
1	17	M	16.0	100.0	19.0	18.0	34.0	150.0	114.0	6.5	3.6
1	22	M	14.0	87.0	21.0	19.0	34.0	146.0	112.0	6.6	3.8
1	26	M	12.0	94.0	20.0	14.0	44.0	148.0	112.0	6.2	3.5
2	-3	M	13.0	108.0	14.0	20.0	84.0	149.0	116.0	7.0	3.9
2	-1	M	12.0	90.0	18.0	16.0	88.0	149.0	106.0	7.0	3.4
2	3	M	14.0	84.0	16.0	16.0	61.0	146.0	107.0	6.8	3.8
2	8	M	16.0	82.0	20.0	20.0	60.0	146.0	108.0	6.8	3.7
2	12	M	16.0	96.0	20.0	16.0	74.0	146.0	106.0	6.6	3.2
2	17	M	17.0	100.0	20.0	18.0	100.0	146.0	112.0	6.6	3.4
2	22	M	14.0	91.0	19.0	17.0	102.0	146.0	105.0	7.1	3.4
2	26	M	15.0	89.0	16.0	8.0	73.0	144.0	110.0	6.4	3.1
3	-3	M	11.0	94.0	13.0	17.0	79.0	151.0	116.0	6.6	4.3
3	-1	M	9.0	106.0	16.0	18.0	88.0	149.0	110.0	6.6	3.1
3	3	M	10.0	78.0	14.0	16.0	77.0	149.0	106.0	6.0	3.9
3	8	M	11.0	66.0	14.0	17.0	67.0	145.0	108.0	6.4	3.6
3	12	M	11.0	96.0	16.0	18.0	66.0	146.0	110.0	6.1	3.5
3	17	M	15.0	109.0	14.0	19.0	74.0	143.0	108.0	6.1	3.9
3	22	M	12.0	80.0	16.0	22.0	74.0	146.0	99.0	6.6	3.8
3	26	M	14.0	85.0	20.0	12.0	89.0	150.0	114.0	6.6	3.9
4	-3	M	13.0	104.0	12.0	18.0	83.0	154.0	108.0	6.2	4.4
4	-1	M	20.0	102.0	21.0	18.0	88.0	148.0	98.0	7.0	3.5
4	3	M	24.0	102.0	17.0	25.0	58.0	150.0	112.0	6.6	3.6
4	8	M	24.0	104.0	16.0	20.0	51.0	146.0	114.0	6.4	3.5
4	12	M	22.0	102.0	17.0	17.0	45.0	148.0	112.0	6.4	3.3
4	17	M	29.0	115.0	17.0	14.0	38.0	153.0	116.0	7.0	3.7
4	22	M	22.0	92.0	16.0	16.0	40.0	145.0	110.0	6.0	3.5
4	26	M	14.0	105.0	29.0	16.0	38.0	148.0	111.0	6.2	3.8
5	-3	M	10.0	94.0	14.0	16.0	64.0	150.0	112.0	6.8	4.0
5	-1	M	11.0	94.0	13.0	15.0	69.0	152.0	108.0	6.5	3.2
5	3	M	13.0	92.0	14.0	14.0	50.0	147.0	106.0	5.8	3.6
5	8	M	12.0	111.0	14.0	16.0	38.0	146.0	110.0	6.4	3.7
5	12	M	12.0	106.0	16.0	20.0	28.0	146.0	111.0	6.4	3.4
5	17	M	18.0	90.0	21.0	19.0	28.0	148.0	110.0	7.1	3.9
5	22	M	18.0	104.0	21.0	19.0	34.0	148.0	108.0	7.0	4.2
5	26	M	13.0	88.0	16.0	24.0	32.0	144.0	108.0	6.4	3.6
6	-3	M	18.0	99.0	19.0	22.0	118.0	144.0	110.0	6.8	3.9
6	-1	M	11.0	98.0	21.0	22.0	112.0	142.0	143.0	5.6	3.0
6	3	M	15.0	100.0	16.0	18.0	84.0	145.0	110.0	6.2	3.7
6	8	M	15.0	93.0	19.0	20.0	85.0	150.0	112.0	6.4	3.8
6	12	M	12.0	94.0	16.0	21.0	81.0	149.0	112.0	6.3	3.3
6	17	M	17.0	103.0	16.0	15.0	67.0	148.0	112.0	6.5	3.6
6	22	M	13.0	90.0	14.0	17.0	79.0	148.0	117.0	7.4	4.0
6	26	M	13.0	100.0	11.0	20.0	62.0	149.0	110.0	6.4	3.4

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

INDIVIDUAL BONE MARROW MYELOID:ERYTHROID RATIO VALUES

<u>MALES</u>		<u>FEMALES</u>	
<u>Animal No.</u>	<u>M:E Ratio</u>	<u>Animal No.</u>	<u>M:E Ratio</u>
<u>0.0 mg/kg/day</u>			
01	1.8	07	TFC
02	3.5	08	2.3
03	1.4	09	1.6
04	TFC	10	0.8
05	2.5	11	TFC
06	7.3	12	1.4
<u>0.5 mg/kg/day</u>			
13	1.2	19	1.5
14	TFC	20	1.3
15	1.3	21	2.3
16	3.6	22	1.2
17	1.9	23	TFC
18	TFC	24	0.8
<u>2.0 mg/kg/day</u>			
25	2.5	31	TFC
26	3.0	32	1.1
27	1.1	33	2.6
28	3.5	34	1.6
29	2.3	35	2.4
30	1.4	36	1.5
<u>8.0 mg/kg/day</u>			
37	0.9	43	0.8
38	1.6	44	0.8
39	1.0	45	9.9
40	1.3	46	2.8
41	1.2	47	0.4
42	7.0	48	0.9
<u>32 mg/kg/day</u>			
49	0.7	55	2.1
50	1.2	56	1.5
51	0.5	57	1.1
52	1.0	58	2.2
53	1.1	59	0.7
54	0.7	60	0.5

TFC = Too few cells for accurate assessment

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E K	S E X	GLBULIN (GM/DL)	LACTIC DEHYDROGENASE (IU/DL)	CREATINE PHOSPHOKINASE (IU/DL)	CALCIUM (MG/DL)	TRIGLYCERIDES (MG/DL)	TOTAL BILIRUBIN (MG/DL)	DIRECT BILIRUBIN (MG/DL)	CHOLESTEROL (MG/DL)	POTASSIUM (MEQ/DL)
37	-3	M	2.8	56.0	114.0	10.8	44.0	0.4	0.6	193.0	4.0
37	-1	M	3.1	52.0	120.0	10.8	37.0	0.2	0.3	176.0	4.0
37	3	M	2.6	59.0	95.0	11.9	53.0	0.4	0.3	189.0	4.0
37	8	M	3.0	68.0	68.0	10.8	46.0	0.2	0.2	184.0	4.0
37	12	M	3.2	66.0	53.0	10.7	35.0	0.2	0.1	178.0	4.0
37	17	M	3.2	32.0	33.0	10.8	39.0	0.1	0.2	191.0	4.0
37	22	M	3.6	105.0	90.0	11.5	58.0	0.3	0.2	193.0	5.0
37	26	M	3.1	72.0	50.0	13.0	54.0	0.5	0.4	215.0	4.0
38	-3	M	2.9	115.0	121.0	10.9	40.0	0.5	0.4	158.0	5.0
38	-1	M	3.4	81.0	90.0	10.9	---	0.2	0.2	140.0	4.0
38	3	M	2.5	56.0	51.0	11.8	51.0	0.3	0.3	156.0	4.0
38	8	M	2.8	71.0	62.0	11.2	28.0	0.1	0.2	156.0	4.0
38	12	M	3.2	84.0	60.0	11.1	38.0	0.3	0.3	148.0	4.0
38	17	M	3.2	39.0	35.0	11.1	39.0	0.2	0.2	166.0	4.0
38	22	M	3.4	168.0	88.0	11.7	41.0	0.4	0.3	165.0	4.0
38	26	M	2.8	54.0	46.0	12.7	39.0	0.7	0.5	178.0	4.0
39	-3	M	2.7	26.0	163.0	10.2	48.0	0.2	0.2	211.0	4.0
39	-1	M	3.6	70.0	230.0	10.4	42.0	0.2	0.2	195.0	5.0
39	3	M	2.8	42.0	85.0	10.6	76.0	0.3	0.4	183.0	6.0
39	8	M	3.3	32.0	54.0	10.4	49.0	0.2	0.1	223.0	4.0
39	12	M	3.3	46.0	54.0	10.6	122.0	0.2	0.5	246.0	5.0
39	17	M	3.1	42.0	38.0	10.2	43.0	0.1	0.2	230.0	5.0
39	22	M	3.1	68.0	66.0	11.1	78.0	0.5	0.5	233.0	5.0
39	26	M	2.8	22.0	56.0	8.6	100.0	0.5	0.4	270.0	4.0
40	-3	M	2.8	79.0	152.0	9.6	54.0	0.7	0.8	158.0	4.0
40	-1	M	3.3	66.0	134.0	10.6	50.0	0.2	0.2	139.0	4.0
40	3	M	2.7	44.0	56.0	11.4	67.0	0.3	0.2	166.0	4.0
40	8	M	2.8	32.0	42.0	12.0	40.0	0.1	0.1	173.0	4.0
40	12	M	3.0	72.0	58.0	8.6	60.0	0.2	0.2	178.0	4.0
40	17	M	2.7	42.0	40.0	10.6	58.0	0.1	0.2	167.0	4.0
40	22	M	2.6	108.0	88.0	11.4	52.0	0.4	0.3	171.0	4.0
40	26	M	2.8	40.0	60.0	11.2	55.0	0.5	0.4	264.0	4.0
41	-3	M	3.3	105.0	252.0	10.8	46.0	0.6	0.5	170.0	4.0
41	-1	M	3.6	116.0	226.0	10.6	62.0	0.5	0.7	213.0	5.0
41	3	M	3.0	208.0	125.0	9.8	60.0	0.4	0.3	227.0	5.0
41	8	M	2.9	94.0	60.0	9.8	42.0	0.2	0.3	207.0	4.0
41	12	M	2.8	54.0	46.0	12.2	80.0	0.4	0.8	262.0	5.0
41	17	M	2.7	42.0	46.0	10.5	34.0	0.1	0.2	234.0	4.0
41	22	M	3.5	95.0	70.0	12.4	63.0	0.2	0.3	280.0	5.0
41	26	M	2.7	58.0	156.0	11.2	63.0	0.3	0.4	226.0	5.0
42	-3	M	2.5	41.0	70.0	11.6	47.0	0.3	0.3	162.0	5.0
42	-1	M	3.2	78.0	200.0	9.8	32.0	0.3	0.5	153.0	4.0
42	3	M	2.7	73.0	104.0	11.4	53.0	0.3	0.3	155.0	4.0
42	8	M	3.5	70.0	97.0	10.6	38.0	0.1	0.2	223.0	4.0
42	12	M	3.8	60.0	37.0	10.8	24.0	0.1	0.2	139.0	4.0
42	17	M	3.8	62.0	15.0	10.5	26.0	0.2	0.3	212.0	4.0
42	22	M	3.2	42.0	44.0	11.3	45.0	0.1	0.2	126.0	4.0
42	26	M	2.8	67.0	44.0	11.1	50.0	0.3	0.4	171.0	4.0

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E K X	S E X	BIL (MG/DL)	GLUCOSE (GM/DL)	SGPT (IU/L)	SGOT (IU/L)	ALKALINE PHOSPHATASE (IU/L)	SODIUM (MEQ/L)	CHLORIDE (MEQ/L)	TOTAL PROTEIN (GM/DL)	ALBUMIN (GM/DL)
43	-3	F	14.0	102.0	17.0	19.0	78.0	150.0	113.0	6.7	4.1
43	-1	F	15.0	99.0	19.0	18.0	78.0	150.0	108.0	6.3	3.2
43	3	F	10.0	89.0	9.0	18.0	56.0	145.0	109.0	6.0	3.7
43	8	F	18.0	94.0	12.0	20.0	52.0	150.0	112.0	6.4	3.7
43	12	F	16.0	83.0	12.0	16.0	41.0	145.0	108.0	5.8	3.1
43	17	F	14.0	98.0	17.0	19.0	54.0	150.0	111.0	6.6	3.9
43	22	F	15.0	87.0	9.0	21.0	52.0	148.0	110.0	5.8	3.6
43	26	F	14.0	100.0	13.0	16.0	41.0	147.0	110.0	5.5	3.5
44	-3	F	14.0	99.0	9.0	14.0	99.0	144.0	106.0	6.6	5.1
44	-1	F	16.0	78.0	17.0	18.0	89.0	140.0	106.0	7.2	3.2
44	3	F	14.0	92.0	6.0	16.0	53.0	148.0	109.0	6.2	3.4
44	8	F	16.0	78.0	14.0	16.0	93.0	148.0	110.0	6.2	3.6
44	12	F	11.0	67.0	8.0	16.0	82.0	150.0	110.0	6.0	3.2
44	17	F	17.0	91.0	11.0	16.0	41.0	149.0	112.0	6.7	3.9
44	22	F	16.0	83.0	6.0	14.0	62.0	148.0	104.0	7.1	4.0
44	26	F	15.0	105.0	5.0	---	52.0	145.0	112.0	6.4	3.6
45	-3	F	23.0	95.0	16.0	22.0	92.0	153.0	119.0	6.7	4.0
45	-1	F	24.0	84.0	16.0	14.0	86.0	144.0	146.0	6.5	3.6
45	3	F	22.0	70.0	8.0	14.0	56.0	149.0	114.0	5.8	3.7
45	8	F	23.0	61.0	12.0	14.0	60.0	148.0	110.0	6.6	3.6
45	12	F	21.0	70.0	7.0	14.0	54.0	149.0	108.0	6.6	3.3
45	17	F	22.0	82.0	10.0	16.0	52.0	148.0	112.0	6.7	3.8
45	22	F	25.0	66.0	9.0	17.0	80.0	149.0	110.0	6.6	4.0
45	26	F	24.0	78.0	9.0	24.0	64.0	148.0	112.0	6.3	3.8
46	-3	F	14.0	78.0	20.0	18.0	93.0	146.0	110.0	6.3	3.9
46	-1	F	12.0	79.0	25.0	18.0	74.0	144.0	109.0	5.8	3.0
46	3	F	10.0	82.0	7.0	18.0	44.0	146.0	109.0	6.0	3.8
46	8	F	17.0	64.0	8.0	15.0	52.0	148.0	112.0	6.0	3.4
46	12	F	13.0	76.0	12.0	14.0	44.0	148.0	108.0	6.0	3.4
46	17	F	14.0	88.0	9.0	18.0	47.0	148.0	106.0	6.0	3.4
46	22	F	14.0	80.0	L.O.	20.0	36.0	146.0	106.0	6.4	3.6
46	26	F	14.0	84.0	12.0	20.0	42.0	146.0	112.0	5.8	3.6
47	-3	F	12.0	98.0	28.0	22.0	64.0	148.0	114.0	6.6	3.8
47	-1	F	14.0	35.0	35.0	40.0	66.0	150.0	120.0	6.5	3.3
47	3	F	16.0	72.0	11.0	20.0	44.0	150.0	112.0	6.1	3.5
47	8	F	13.0	33.0	13.0	18.0	38.0	147.0	112.0	6.3	3.4
47	12	F	15.0	73.0	16.0	15.0	47.0	148.0	113.0	6.2	3.3
47	17	F	21.0	92.0	14.0	19.0	66.0	149.0	111.0	6.5	3.6
47	22	F	19.0	70.0	15.0	19.0	50.0	144.0	106.0	6.3	3.4
47	26	F	15.0	68.0	11.0	16.0	46.0	145.0	110.0	6.0	3.2
48	-3	F	14.0	103.0	16.0	18.0	132.0	154.0	109.0	6.8	4.4
48	-1	F	14.0	102.0	20.0	22.0	116.0	150.0	108.0	6.4	3.6
48	3	F	19.0	64.0	8.0	18.0	70.0	146.0	112.0	6.6	4.0
48	8	F	16.0	58.0	8.0	16.0	75.0	146.0	114.0	6.6	3.6
48	12	F	15.0	74.0	9.0	14.0	85.0	146.0	110.0	6.2	3.1
48	17	F	15.0	93.0	6.0	13.0	80.0	144.0	107.0	6.6	3.6
48	22	F	14.0	82.0	7.0	16.0	68.0	142.0	104.0	6.8	3.6
48	26	F	14.0	67.0	9.0	14.0	60.0	166.0	128.0	7.8	4.0

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E K	S E X	GLOBULIN (GM/DL)	LACTIC DEHYDROGENASE (IU/DL)	CREATINE PHOSPHOKINASE (IU/DL)	CALCIUM (MG/DL)	TRIGLYCERIDES (MG/DL)	TOTAL BILIRUBIN (MG/DL)	DIRECT BILIRUBIN (MG/DL)	CHOLESTEROL (MG/DL)	POTASSIUM (MEQ/DL)
43	-3	F	2.6	42.0	144.0	11.0	31.0	0.3	0.2	126.0	5.0
43	-1	F	3.1	64.0	108.0	10.5	67.0	0.2	0.2	101.0	4.0
43	3	F	2.3	102.0	62.0	11.3	53.0	0.2	0.2	126.0	4.0
43	8	F	2.7	44.0	73.0	11.2	37.0	0.1	0.2	107.0	4.0
43	12	F	2.7	56.0	62.0	11.1	26.0	0.2	0.2	119.0	4.0
43	17	F	2.7	39.0	42.0	11.3	22.0	0.1	0.2	116.0	4.0
43	22	F	2.2	85.0	68.0	11.8	31.0	0.2	0.3	108.0	4.0
43	26	F	2.0	40.0	55.0	10.8	39.0	0.5	0.4	150.0	4.0
44	-3	F	1.5	36.0	72.0	11.2	42.0	0.7	0.4	159.0	4.0
44	-1	F	4.0	73.0	168.0	11.0	33.0	0.2	0.2	186.0	4.0
44	3	F	2.8	194.0	64.0	11.6	55.0	0.5	0.6	145.0	4.0
44	8	F	2.6	74.0	53.0	10.8	31.0	0.2	0.3	172.0	4.0
44	12	F	2.8	144.0	56.0	10.6	39.0	0.4	0.4	145.0	5.0
44	17	F	2.8	105.0	46.0	11.2	30.0	0.4	0.4	179.0	5.0
44	22	F	3.1	98.0	42.0	12.2	54.0	0.3	0.2	195.0	4.0
44	26	F	2.8	34.0	24.0	16.2	43.0	0.5	0.4	180.0	4.0
45	-3	F	2.7	181.0	152.0	---	67.0	1.1	1.4	232.0	5.0
45	-1	F	2.9	76.0	127.0	11.8	37.0	0.2	0.2	212.0	4.0
45	3	F	2.1	74.0	74.0	11.5	47.0	0.3	0.2	192.0	4.0
45	8	F	3.0	49.0	88.0	11.6	44.0	0.2	0.2	221.0	4.0
45	12	F	3.3	94.0	77.0	11.9	57.0	0.2	0.2	310.0	4.0
45	17	F	2.9	68.0	50.0	11.0	51.0	0.3	0.3	256.0	4.0
45	22	F	2.6	138.0	80.0	11.6	56.0	0.4	0.3	255.0	4.0
45	26	F	2.5	78.0	56.0	11.7	88.0	1.0	0.8	428.0	5.0
46	-3	F	2.4	70.0	96.0	11.5	35.0	0.4	0.2	120.0	5.0
46	-1	F	2.8	59.0	114.0	10.8	43.0	0.2	0.2	140.0	4.0
46	3	F	2.2	90.0	128.0	10.9	37.0	0.5	0.6	135.0	5.0
46	8	F	2.6	44.0	40.0	11.2	39.0	0.1	0.1	220.0	4.0
46	12	F	2.6	51.0	52.0	11.6	56.0	0.2	0.2	184.0	4.0
46	17	F	2.6	49.0	28.0	11.0	38.0	0.2	0.1	176.0	5.0
46	22	F	2.8	72.0	48.0	12.3	35.0	0.4	0.3	125.0	4.0
46	26	F	2.2	36.0	40.0	11.3	43.0	0.4	0.3	200.0	4.0
47	-3	F	2.8	118.0	130.0	10.4	84.0	0.5	0.6	159.0	5.0
47	-1	F	3.2	232.0	---	10.3	26.0	0.4	0.6	140.0	5.0
47	3	F	2.6	238.0	99.0	10.4	44.0	0.2	0.3	156.0	5.0
47	8	F	2.9	106.0	52.0	10.3	47.0	0.2	0.2	134.0	5.0
47	12	F	2.9	73.0	44.0	11.0	45.0	0.2	0.1	131.0	5.0
47	17	F	2.9	56.0	35.0	11.0	30.0	0.1	0.1	141.0	5.0
47	22	F	2.9	72.0	57.0	11.7	51.0	0.3	0.3	182.0	5.0
47	26	F	2.8	77.0	56.0	10.2	52.0	0.5	0.4	182.0	5.0
48	-3	F	2.4	46.0	146.0	11.9	36.0	0.4	0.2	147.0	4.0
48	-1	F	2.8	36.0	139.0	10.8	32.0	0.2	0.3	126.0	4.0
48	3	F	2.6	80.0	118.0	10.5	50.0	0.3	0.3	138.0	4.0
48	8	F	3.0	64.0	48.0	10.3	44.0	0.2	0.3	126.0	4.0
48	12	F	3.1	71.0	36.0	11.0	39.0	0.2	0.1	154.0	4.0
48	17	F	3.0	52.0	40.0	10.6	47.0	0.1	0.1	198.0	4.0
48	22	F	3.2	82.0	42.0	12.2	52.0	0.2	0.2	152.0	4.0
48	26	F	3.8	80.0	44.0	14.3	39.0	0.2	0.3	67.0	5.0

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E K	S E X	BUN (MG/DL)	GLUCOSE (GM/DL)	SGPT (IU/L)	SGOT (IU/L)	ALKALINE PHOSPHATASE (IU/L)	SODIUM (MEQ/L)	CHLORIDE (MEQ/L)	TOTAL PROTEIN (GM/DL)	ALBUMIN (GM/DL)
49	-3	M	14.0	74.0	18.0	27.0	94.0	143.0	99.0	6.8	4.1
49	-1	M	11.0	72.0	20.0	26.0	80.0	144.0	110.0	6.0	3.0
49	3	M	9.0	72.0	4.0	18.0	45.0	146.0	112.0	6.3	3.8
49	8	M	12.0	54.0	6.0	22.0	44.0	147.0	114.0	6.8	3.4
49	12	M	12.0	63.0	5.0	22.0	44.0	143.0	109.0	6.3	2.9
49	17	M	13.0	72.0	2.0	18.0	36.0	144.0	110.0	6.3	3.2
49	22	M	14.0	60.0	7.0	42.0	78.0	146.0	110.0	7.0	3.4
49	26	M	14.0	66.0	3.0	20.0	53.0	144.0	110.0	6.4	3.1
50	-3	M	11.0	95.0	16.0	26.0	88.0	145.0	103.0	6.9	4.2
50	-1	M	10.0	96.0	20.0	21.0	75.0	143.0	133.0	6.0	3.0
50	3	M	9.0	66.0	3.0	24.0	44.0	150.0	110.0	7.3	3.4
50	8	M	11.0	71.0	6.0	18.0	30.0	147.0	112.0	7.4	3.6
50	12	M	13.0	72.0	6.0	22.0	70.0	146.0	108.0	6.4	2.9
50	17	M	14.0	95.0	3.0	21.0	83.0	151.0	112.0	6.8	3.2
50	22	M	9.0	74.0	4.0	22.0	65.0	144.0	104.0	7.0	3.4
50	26	M	11.0	71.0	3.0	16.0	55.0	146.0	111.0	7.0	3.2
51	-3	M	14.0	99.0	14.0	15.0	68.0	149.0	104.0	5.8	2.8
51	-1	M	14.0	98.0	15.0	16.0	67.0	148.0	109.0	7.0	4.0
51	3	M	16.0	79.0	5.0	14.0	45.0	148.0	114.0	6.2	3.6
51	8	M	18.0	66.0	5.0	14.0	71.0	150.0	110.0	7.1	3.7
51	12	M	14.0	82.0	4.0	16.0	59.0	148.0	106.0	6.2	3.0
51	17	M	14.0	94.0	4.0	24.0	78.0	143.0	110.0	6.6	3.6
51	22	M	16.0	73.0	5.0	28.0	108.0	149.0	108.0	6.5	3.6
51	26	M	11.0	72.0	7.0	---	86.0	147.0	110.0	6.2	3.4
52	-3	M	17.0	110.0	18.0	22.0	73.0	148.0	108.0	6.4	3.9
52	-1	M	18.0	91.0	25.0	26.0	68.0	143.0	110.0	6.0	2.8
52	3	M	16.0	83.0	5.0	19.0	42.0	152.0	113.0	6.5	3.3
52	8	M	16.0	67.0	7.0	21.0	48.0	144.0	110.0	6.7	3.4
52	12	M	16.0	84.0	12.0	26.0	56.0	148.0	110.0	6.5	3.0
52	17	M	19.0	102.0	7.0	28.0	97.0	145.0	113.0	6.8	3.3
52	22	M	19.0	51.0	9.0	38.0	86.0	146.0	114.0	6.0	3.1
52	26	M	17.0	81.0	3.0	20.0	78.0	147.0	116.0	6.0	2.9
53	-3	M	9.0	96.0	13.0	22.0	84.0	151.0	108.0	6.2	3.6
53	-1	M	11.0	90.0	13.0	18.0	90.0	150.0	110.0	6.4	3.1
53	3	M	15.0	79.0	4.0	14.0	60.0	150.0	108.0	6.4	3.3
53	8	M	16.0	78.0	6.0	14.0	58.0	146.0	112.0	6.8	3.4
53	12	M	14.0	80.0	4.0	15.0	44.0	148.0	112.0	6.0	2.7
53	17	M	16.0	74.0	3.0	16.0	48.0	149.0	111.0	7.4	2.8
53	22	M	10.0	68.0	4.0	21.0	100.0	144.0	107.0	7.2	2.6
53	26	M	8.0	60.0	2.0	12.0	152.0	143.0	108.0	7.4	2.2
54	-3	M	14.0	98.0	17.0	20.0	69.0	144.0	106.0	6.8	4.4
54	-1	M	13.0	88.0	18.0	17.0	68.0	143.0	111.0	6.0	2.9
54	3	M	9.0	82.0	4.0	15.0	50.0	146.0	108.0	6.5	3.6
54	8	M	13.0	48.0	6.0	16.0	40.0	146.0	110.0	7.1	3.6
54	12	M	15.0	82.0	6.0	19.0	50.0	148.0	109.0	6.4	3.3
54	17	M	17.0	96.0	3.0	26.0	45.0	144.0	108.0	6.5	3.4
54	22	M	10.0	74.0	5.0	26.0	75.0	145.0	101.0	7.0	3.6
54	26	M	14.0	87.0	2.0	14.0	65.0	142.0	107.0	6.4	3.3

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E K	S E X	GLOBULIN (GM/DL)	LACTIC DEHYDROGENASE (IU/DL)	CREATINE PHOSPHOKINASE (IU/DL)	CALCIUM (MG/DL)	TRIGLYCERIDES (MG/DL)	TOTAL BILIRUBIN (MG/DL)	DIRECT BILIRUBIN (MG/DL)	CHOLESTEROL (MG/DL)	POTASSIUM (MEQ/DL)
49	-3	M	2.7	135.0	158.0	11.6	55.0	0.5	0.3	123.0	4.0
49	-1	M	3.0	73.0	127.0	10.6	39.0	0.2	0.3	149.0	5.0
49	3	M	2.5	49.0	57.0	10.9	52.0	0.4	0.4	135.0	4.0
49	8	M	3.4	82.0	58.0	10.9	44.0	0.3	0.4	126.0	4.0
49	12	M	3.4	64.0	41.0	11.6	30.0	0.3	0.2	110.0	4.0
49	17	M	3.1	29.0	33.0	10.0	26.0	0.4	0.3	100.0	5.0
49	22	M	3.6	124.0	95.0	12.6	42.0	0.4	0.5	137.0	4.0
49	26	M	3.3	20.0	44.0	11.6	49.0	0.3	0.4	137.0	4.0
50	-3	M	2.7	145.0	179.0	10.2	45.0	0.7	1.0	133.0	5.0
50	-1	M	3.0	76.0	165.0	10.4	37.0	0.2	0.2	152.0	4.0
50	3	M	3.9	456.0	135.0	11.0	42.0	0.8	1.1	175.0	4.0
50	8	M	3.8	110.0	88.0	11.0	39.0	0.2	0.2	112.0	4.0
50	12	M	3.5	92.0	39.0	11.5	32.0	0.4	0.3	96.0	5.0
50	17	M	3.6	88.0	40.0	11.0	39.0	0.2	0.2	153.0	5.0
50	22	M	3.6	102.0	60.0	12.0	49.0	0.4	0.4	151.0	4.0
50	26	M	3.8	78.0	40.0	10.6	51.0	0.5	0.5	221.0	4.0
51	-3	M	3.0	41.0	98.0	10.2	42.0	0.4	0.1	210.0	5.0
51	-1	M	3.1	26.0	106.0	10.8	27.0	0.2	0.2	169.0	4.0
51	3	M	2.6	60.0	60.0	12.1	38.0	0.4	0.4	181.0	5.0
51	8	M	3.4	62.0	39.0	11.0	39.0	0.2	0.2	204.0	4.0
51	12	M	3.2	39.0	33.0	10.6	36.0	0.2	0.3	195.0	5.0
51	17	M	3.0	98.0	50.0	11.0	29.0	0.3	0.3	187.0	5.0
51	22	M	2.9	102.0	80.0	12.4	43.0	0.5	0.4	212.0	4.0
51	26	M	2.8	72.0	42.0	8.8	27.0	0.7	0.7	215.0	4.0
52	-3	M	2.5	44.0	143.0	9.9	84.0	0.4	0.2	119.0	4.0
52	-1	M	3.2	54.0	186.0	10.1	35.0	0.3	0.4	129.0	4.0
52	3	M	3.2	231.0	74.0	10.8	72.0	---	0.4	161.0	5.0
52	8	M	3.3	96.0	54.0	10.3	48.0	0.3	0.2	152.0	4.0
52	12	M	3.5	78.0	44.0	11.1	33.0	0.2	0.2	122.0	4.0
52	17	M	3.5	65.0	26.0	10.6	23.0	0.2	0.2	132.0	4.0
52	22	M	2.9	102.0	46.0	11.1	24.0	0.6	0.5	110.0	4.0
52	26	M	3.1	52.0	32.0	10.8	33.0	0.8	0.5	157.0	4.0
53	-3	M	2.6	54.0	179.0	10.8	50.0	0.2	0.2	194.0	4.0
53	-1	M	3.3	80.0	116.0	10.6	51.0	0.2	0.2	166.0	4.0
53	3	M	3.1	58.0	55.0	10.8	55.0	0.4	0.3	187.0	4.0
53	8	M	3.4	38.0	44.0	10.8	41.0	0.4	0.3	191.0	4.0
53	12	M	3.3	36.0	39.0	10.9	44.0	0.3	0.2	153.0	4.0
53	17	M	4.6	76.0	42.0	10.2	47.0	0.2	0.3	201.0	5.0
53	22	M	4.6	174.0	198.0	10.6	53.0	0.5	0.5	184.0	4.0
53	26	M	5.2	51.0	30.0	10.6	82.0	0.4	0.4	281.0	4.0
54	-3	M	2.4	106.0	128.0	11.8	40.0	0.6	0.5	167.0	4.0
54	-1	M	3.1	70.0	110.0	10.2	30.0	0.2	0.2	195.0	4.0
54	3	M	2.9	98.0	69.0	11.2	59.0	0.5	0.4	187.0	4.0
54	8	M	3.5	46.0	37.0	11.0	56.0	0.3	0.2	241.0	4.0
54	12	M	3.1	72.0	50.0	11.9	35.0	0.4	0.4	206.0	4.0
54	17	M	3.1	52.0	80.0	10.9	30.0	0.5	0.5	169.0	4.0
54	22	M	3.4	138.0	68.0	12.0	46.0	0.8	0.7	162.0	4.0
54	26	M	3.1	52.0	32.0	12.0	56.0	0.9	0.7	302.0	4.0

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E K	S E X	BUN (MG/DL)	GLUCOSE (GM/DL)	SGPT (IU/L)	SGOT (IU/L)	ALKALINE PHOSPHATASE (IU/L)	SODIUM (MEQ/L)	CHLORIDE (MEQ/L)	TOTAL PROTEIN (GM/DL)	ALBUMIN (GM/DL)
55	-3	F	15.0	100.0	18.0	22.0	94.0	151.0	108.0	7.0	4.0
55	-1	F	14.0	86.0	15.0	16.0	104.0	147.0	106.0	6.6	3.2
55	3	F	10.0	40.0	3.0	17.0	43.0	146.0	108.0	6.2	3.5
55	8	F	20.0	52.0	13.0	62.0	57.0	151.0	104.0	6.1	3.3
55	12	F	13.0	78.0	7.0	23.0	48.0	144.0	109.0	5.1	2.2
55	17	F	---	---	---	---	---	---	---	---	---
55	22	F	---	---	---	---	---	---	---	---	---
55	26	F	---	---	---	---	---	---	---	---	---
56	-3	F	14.0	105.0	16.0	17.0	74.0	148.0	108.0	6.8	4.1
56	-1	F	14.0	94.0	22.0	21.0	72.0	146.0	114.0	6.5	3.2
56	3	F	14.0	76.0	5.0	12.0	56.0	146.0	108.0	6.4	3.5
56	8	F	16.0	42.0	6.0	14.0	55.0	148.0	111.0	6.2	3.6
56	12	F	9.0	73.0	6.0	16.0	43.0	147.0	108.0	6.0	3.0
56	17	F	13.0	77.0	3.0	15.0	34.0	148.0	112.0	6.4	3.6
56	22	F	9.0	68.0	3.0	22.0	188.0	148.0	106.0	5.8	3.8
56	26	F	12.0	63.0	4.0	20.0	71.0	152.0	109.0	6.2	3.2
57	-3	F	15.0	78.0	20.0	26.0	58.0	148.0	111.0	6.4	3.8
57	-1	F	17.0	84.0	21.0	22.0	60.0	150.0	109.0	6.4	3.3
57	3	F	14.0	66.0	6.0	15.0	48.0	148.0	110.0	6.2	3.7
57	8	F	12.0	38.0	6.0	18.0	41.0	146.0	111.0	6.0	3.3
57	12	F	10.0	68.0	6.0	22.0	41.0	148.0	112.0	6.0	3.0
57	17	F	10.0	78.0	2.0	16.0	29.0	145.0	110.0	5.7	2.8
57	22	F	11.0	71.0	4.0	19.0	66.0	145.0	111.0	6.3	3.3
57	26	F	11.0	59.0	2.0	16.0	52.0	146.0	110.0	6.0	3.0
58	-3	F	12.0	74.0	14.0	16.0	74.0	143.0	98.0	7.0	4.1
58	-1	F	15.0	89.0	18.0	18.0	68.0	147.0	108.0	7.0	3.9
58	3	F	13.0	45.0	6.0	24.0	44.0	147.0	110.0	6.7	4.1
58	8	F	11.0	36.0	6.0	15.0	46.0	146.0	114.0	6.8	4.0
58	12	F	14.0	57.0	6.0	16.0	32.0	149.0	114.0	6.0	3.5
58	17	F	---	---	---	---	---	---	---	---	---
58	22	F	---	---	---	---	---	---	---	---	---
58	26	F	---	---	---	---	---	---	---	---	---
59	-3	F	11.0	110.0	14.0	16.0	139.0	152.0	87.0	6.8	4.0
59	-1	F	12.0	96.0	16.0	20.0	136.0	149.0	108.0	6.6	3.4
59	3	F	11.0	62.0	4.0	16.0	71.0	146.0	110.0	6.3	3.6
59	8	F	13.0	61.0	5.0	14.0	75.0	145.0	108.0	6.7	3.6
59	12	F	25.0	82.0	9.0	18.0	63.0	146.0	110.0	6.4	3.4
59	17	F	14.0	84.0	8.0	14.0	46.0	147.0	110.0	6.6	3.8
59	22	F	13.0	74.0	3.0	16.0	88.0	148.0	108.0	6.6	3.8
59	26	F	13.0	78.0	8.0	20.0	97.0	145.0	108.0	6.7	3.8
60	-3	F	19.0	91.0	21.0	20.0	98.0	148.0	116.0	6.6	4.2
60	-1	F	18.0	92.0	22.0	20.0	88.0	148.0	130.0	6.9	3.6
60	3	F	9.0	72.0	4.0	16.0	36.0	150.0	109.0	5.8	3.5
60	8	F	14.0	78.0	6.0	14.0	51.0	146.0	112.0	6.5	3.4
60	12	F	16.0	87.0	8.0	16.0	50.0	143.0	112.0	6.8	3.5
60	17	F	11.0	86.0	11.0	20.0	41.0	148.0	114.0	6.7	3.7
60	22	F	23.0	59.0	8.0	32.0	36.0	150.0	107.0	6.6	4.0
60	26	F	22.0	67.0	6.0	24.0	60.0	149.0	110.0	6.6	3.6

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
 INDIVIDUAL CLINICAL CHEMISTRY VALUES

D O G #	W E E K	S E X	GLOBULIN (GM/DL)	LACTIC DEHYDROGENASE (IU/DL)	CREATINE PHOSPHOKINASE (IU/DL)	CALCIUM (MG/DL)	TRIGLYCERIDES (MG/DL)	TOTAL BILIRUBIN (MG/DL)	DIRECT BILIRUBIN (MG/DL)	CHOLESTEROL (MG/DL)	POTASSIUM (MEQ/DL)
55	-3	F	3.0	139.0	144.0	11.5	53.0	0.8	1.0	208.0	5.0
55	-1	F	3.4	87.0	106.0	10.9	54.0	0.2	0.3	171.0	4.0
55	3	F	2.7	212.0	96.0	11.3	43.0	0.8	0.8	133.0	5.0
55	8	F	2.8	200.0	60.0	11.2	68.0	0.4	0.4	130.0	5.0
55	12	F	2.9	220.0	50.0	9.2	30.0	0.6	0.9	76.0	6.0
55	17	F	---	---	---	---	---	---	---	---	---
55	22	F	---	---	---	---	---	---	---	---	---
55	26	F	---	---	---	---	---	---	---	---	---
56	-3	F	2.7	42.0	88.0	10.2	46.0	0.6	0.3	202.0	5.0
56	-1	F	3.3	38.0	116.0	10.8	25.0	0.3	0.3	210.0	4.0
56	3	F	2.9	125.0	70.0	11.9	39.0	0.3	0.3	239.0	5.0
56	8	F	2.6	64.0	36.0	11.0	53.0	0.2	0.2	155.0	5.0
56	12	F	3.0	56.0	31.0	10.6	33.0	0.4	0.5	189.0	5.0
56	17	F	2.8	59.0	35.0	11.1	19.0	0.4	0.3	129.0	5.0
56	22	F	2.9	98.0	71.0	11.4	47.0	0.6	0.6	144.0	5.0
56	26	F	3.0	130.0	66.0	9.6	38.0	0.7	0.7	204.0	5.0
57	-3	F	2.5	86.0	202.0	11.1	55.0	0.4	0.4	156.0	4.0
57	-1	F	3.1	116.0	156.0	10.2	60.0	0.5	0.8	145.0	4.0
57	3	F	2.5	104.0	58.0	10.9	40.0	0.4	0.4	151.0	4.0
57	8	F	2.7	156.0	48.0	10.7	30.0	0.3	0.3	119.0	4.0
57	12	F	3.0	144.0	64.0	12.6	24.0	0.4	0.3	102.0	4.0
57	17	F	2.9	68.0	31.0	10.0	29.0	0.3	0.3	98.0	5.0
57	22	F	3.0	132.0	50.0	12.6	52.0	0.6	0.6	122.0	5.0
57	26	F	3.0	45.0	33.0	11.6	39.0	0.2	0.4	140.0	5.0
58	-3	F	2.9	120.0	83.0	11.0	32.0	0.4	0.2	95.0	4.0
58	-1	F	3.1	50.0	120.0	11.7	33.0	0.2	0.3	126.0	4.0
58	3	F	2.6	456.0	176.0	9.6	41.0	0.5	0.4	103.0	5.0
58	8	F	2.8	192.0	71.0	11.0	27.0	0.4	0.4	214.0	5.0
58	12	F	2.5	79.0	40.0	12.1	28.0	0.5	0.3	78.0	5.0
58	17	F	---	---	---	---	---	---	---	---	---
58	22	F	---	---	---	---	---	---	---	---	---
58	26	F	---	---	---	---	---	---	---	---	---
59	-3	F	2.8	22.0	86.0	10.9	34.0	0.3	0.3	163.0	4.0
59	-1	F	3.2	52.0	122.0	10.9	22.0	0.2	0.2	158.0	4.0
59	3	F	2.7	180.0	79.0	11.0	45.0	0.5	0.4	184.0	5.0
59	8	F	3.1	98.0	62.0	11.6	24.0	0.3	0.3	163.0	5.0
59	12	F	3.0	44.0	35.0	12.4	76.0	0.4	1.0	160.0	5.0
59	17	F	2.8	79.0	33.0	11.0	25.0	0.3	0.3	190.0	4.0
59	22	F	2.8	108.0	53.0	11.9	36.0	0.4	0.3	191.0	4.0
59	26	F	2.9	92.0	34.0	13.8	39.0	0.6	0.5	318.0	4.0
60	-3	F	2.4	59.0	127.0	10.5	50.0	0.7	0.2	132.0	5.0
60	-1	F	3.3	52.0	122.0	11.4	36.0	0.2	0.3	170.0	4.0
60	3	F	2.3	181.0	89.0	10.5	46.0	0.6	0.4	134.0	5.0
60	8	F	3.1	72.0	54.0	10.9	37.0	0.2	0.2	174.0	5.0
60	12	F	3.3	65.0	68.0	11.6	48.0	0.4	0.3	226.0	5.0
60	17	F	3.0	52.0	38.0	10.5	34.0	0.3	0.3	155.0	4.0
60	22	F	2.6	118.0	53.0	11.8	41.0	0.3	0.3	151.0	5.0
60	26	F	3.0	74.0	44.0	11.7	55.0	0.6	0.5	230.0	4.0

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

INDIVIDUAL ELECTROCARDIOGRAPHY VALUES
 MALES

DOSE	G R O U P	D O G S E #	WEEK											
			-1				13				25			
			HEART RATE BEATS/MIN			PQ MSEC	HEART RATE BEATS/MIN			PQ MSEC	HEART RATE BEATS/MIN			PQ MSEC
CONTROL	1	01 M	150	100	200	100	136	110	190	136	100	200	136	100
	1	02 M	167	80	160	170	100	100	200	107	90	170	130	90
	1	03 M	136	90	170	180	136	100	180	103	100	180	103	100
	1	04 M	158	60	160	180	94	80	200	94	110	180	94	110
	1	05 M	188	90	180	180	111	120	180	111	100	160	111	100
	1	06 M	125	90	170	180	111	110	180	111	100	160	111	100
.5 MG/KG/DAY	2	13 M	143	100	200	200	125	100	180	115	100	180	115	100
	2	14 M	176	80	170	180	167	80	160	167	70	155	136	80
	2	15 M	150	80	180	180	231	80	150	115	100	170	115	100
	2	16 M	150	90	160	180	125	100	160	120	100	200	120	100
	2	17 M	140	80	180	180	130	100	200	115	80	160	115	80
	2	18 M	111	80	210	180	79	80	200	130	100	160	130	100
2 MG/KG/DAY	3	25 M	167	100	160	180	107	110	180	150	100	180	125	80
	3	26 M	122	80	200	170	158	110	180	120	100	180	120	80
	3	27 M	158	90	170	180	107	100	160	125	80	160	125	80
	3	28 M	143	90	180	180	136	80	160	120	80	170	115	80
	3	29 M	75	80	200	180	120	90	180	120	80	160	120	80
	3	30 M	125	90	180	180	100	80	190	150	80	160	150	80
8 MG/KG/DAY	4	37 M	150	80	180	180	115	100	190	115	90	180	115	90
	4	38 M	158	100	190	180	120	100	190	167	70	170	97	120
	4	39 M	200	80	140	180	111	80	180	120	100	180	120	100
	4	40 M	111	100	220	180	79	110	240	150	100	180	150	100
	4	41 M	158	70	180	180	100	90	180	136	100	160	136	100
	4	42 M	143	90	180	180	143	100	180	136	100	160	136	100
32 MG/KG/DAY	5	49 M	136	80	180	180	125	100	180	130	80	160	167	70
	5	50 M	150	70	170	180	130	80	170	120	90	160	120	90
	5	51 M	167	80	180	180	150	80	180	111	110	160	111	110
	5	52 M	115	80	190	180	115	100	200	136	90	160	136	90
	5	53 M	133	100	180	180	150	90	180	136	90	160	136	90
	5	54 M	176	80	180	180	125	100	180	136	90	160	136	90

--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

INDIVIDUAL ELECTROCARDIOGRAPHY VALUES
 FEMALES

DOSE			G D R O S			WEEK														
U E X			P # X			-1					13					25				
						HEART					HEART					HEART				
						RATE					RATE					RATE				
						BEATS/MIN					BEATS/MIN					BEATS/MIN				
						PQ					PQ					PQ				
						MSEC					MSEC					MSEC				
						QRST					QRST					QRST				
						MSEC					MSEC					MSEC				
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--- INDICATES NO DATA

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

INDIVIDUAL ORGAN WEIGHT VALUES
 MALES

DOSE	G R O U P	D O S E #	SEX	BODY (KG)	BRAIN (G)	HEART (G)	KIDNEY* (G)	ORGAN					LIVER (G)	SPLEEN (G)	TESTES* (G)	THYROID (G)
								ADRENAL* (G)	PITUITARY (G)							
CONTROL	1	01	M	11.1	80.24	106.92	70.15	1.41	.10	325.58	40.82	20.60	.97			
	1	02	M	11.7	79.36	92.03	55.32	1.76	.09	311.22	31.11	17.47	1.06			
	1	03	M	10.5	76.00	101.17	66.29	1.27	.09	288.72	25.49	14.77	.68			
	1	04	M	11.2	---	91.87	49.62	1.34	.07	320.40	39.88	15.42	.82			
	1	05	M	10.7	73.72	108.02	63.65	1.50	.06	300.42	67.52	12.55	.84			
	1	06	M	12.1	87.20	92.71	55.97	1.65	.08	332.04	43.58	17.45	.78			
5 MG/KG/DAY	2	13	M	10.9	78.04	91.08	58.35	2.80	.06	305.00	32.67	15.20	.82			
	2	14	M	10.2	103.29	92.00	66.36	1.75	---	351.78	22.92	18.58	.83			
	2	15	M	10.4	79.02	104.58	62.60	.96	.08	337.70	29.00	11.50	.83			
	2	16	M	10.0	76.50	96.17	71.51	1.41	.08	358.57	45.10	15.85	1.40			
	2	17	M	8.6	82.97	99.91	62.26	1.31	.13	316.56	31.46	15.85	.99			
	2	18	M	13.3	81.01	115.22	66.42	1.84	.11	386.60	33.77	19.41	1.27			
2 MG/KG/DAY	3	25	M	10.7	93.28	104.50	58.75	1.39	.09	356.08	32.47	18.50	.84			
	3	26	M	9.8	79.42	93.69	52.51	1.42	.08	302.15	24.56	11.38	1.00			
	3	27	M	12.2	74.40	85.50	59.55	1.20	.50	299.83	25.94	17.22	.92			
	3	28	M	11.8	80.79	97.70	59.55	1.71	.06	346.88	41.14	17.70	1.60			
	3	29	M	11.3	69.55	87.92	56.25	1.12	.06	342.35	41.75	13.09	.90			
	3	30	M	8.6	76.28	76.48	47.70	1.23	.07	266.91	26.40	12.90	.53			
8 MG/KG/DAY	4	37	M	10.0	69.38	87.45	56.89	1.10	.46	326.78	41.64	16.10	.96			
	4	38	M	11.5	81.30	103.75	52.66	1.57	.08	389.31	55.33	14.90	1.75			
	4	39	M	8.6	77.25	77.44	50.41	1.38	.06	352.54	23.48	9.87	1.10			
	4	40	M	8.3	80.23	68.67	54.42	1.44	.41	293.21	22.06	14.90	.88			
	4	41	M	8.8	79.48	80.35	45.30	1.04	.05	324.67	24.08	12.31	.78			
	4	42	M	8.9	78.29	80.99	76.33	1.71	.08	359.20	42.33	15.45	1.08			
32 MG/KG/DAY	5	49	M	9.4	71.37	80.79	44.07	1.40	.07	424.75	81.80	15.38	.64			
	5	50	M	9.4	73.05	80.52	56.12	.84	.08	349.88	110.50	12.88	.53			
	5	51	M	8.7	78.09	80.57	54.56	1.05	.06	398.80	62.00	11.19	.93			
	5	52	M	9.3	73.32	77.41	48.89	1.20	.06	377.10	88.00	17.06	.88			
	5	53	M	9.8	81.15	84.94	86.75	1.71	.10	559.70	120.65	14.24	.96			
	5	54	M	9.8	81.03	87.48	53.52	1.45	.80	386.14	85.88	18.08	.89			

--- INDICATES NO DATA

* Paired organ weights

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
 OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG

INDIVIDUAL ORGAN WEIGHT VALUES
 FEMALES

DOSE	G R O U P	D O S E #	S E X	BODY (KG)	BRAIN (G)	HEART (G)	KIDNEY (G)	ORGAN					SPLEEN (G)	TESTES (G)	*THYROID (G)
								ADRENAL*	PITUITARY*	LIVER					
CONTROL	1	07	F	10.7	71.90	68.48	41.80	1.24	.06	256.67	27.23	.86	.84		
	1	08	F	12.0	71.03	78.98	45.28	1.65	.08	314.79	33.30	1.09	1.14		
	1	09	F	7.5	75.71	77.80	42.81	1.09	.09	271.42	18.05	.66	.69		
	1	10	F	9.3	75.10	90.80	50.84	1.46	.08	313.22	24.83	1.36	.47		
	1	11	F	10.3	78.58	82.74	39.33	1.16	.89	280.16	36.91	1.24	1.46		
	1	12	F	7.7	77.52	79.00	40.86	1.40	.07	213.22	29.14	.87	.82		
5 MG/KG/DAY	2	19	F	9.9	78.90	89.49	40.26	1.05	.07	205.71	30.30	.72	.74		
	2	20	F	8.4	71.72	92.38	45.68	1.22	.06	229.64	35.56	.84	.64		
	2	21	F	8.4	74.81	75.90	46.94	1.26	.43	291.33	23.92	1.22	.66		
	2	22	F	8.6	76.12	80.15	45.97	1.49	.08	275.72	21.00	.64	.74		
	2	23	F	9.8	85.08	99.70	56.46	1.44	.10	318.83	27.82	.91	.93		
	2	24	F	9.5	82.91	88.71	39.62	1.33	.02	262.92	35.19	1.23	.86		
2 MG/KG/DAY	3	31	F	11.3	70.49	73.18	46.14	1.52	.05	320.00	35.95	1.17	1.37		
	3	32	F	8.5	67.40	76.20	41.55	.93	.08	277.48	19.38	.65	.65		
	3	33	F	10.5	71.83	86.53	44.70	1.76	.06	314.48	30.22	.84	1.14		
	3	34	F	8.2	67.68	81.53	38.58	1.26	.06	316.19	35.18	1.05	.73		
	3	35	F	7.9	70.47	75.07	36.69	1.22	.05	236.50	21.62	.78	.79		
	3	36	F	9.6	81.60	75.34	41.32	1.24	.08	232.32	35.12	.88	.75		
8 MG/KG/DAY	4	43	F	8.2	74.10	90.81	42.16	1.50	.08	263.08	41.91	.76	.80		
	4	44	F	8.2	74.10	90.81	42.16	1.50	.08	263.08	41.91	.76	.80		
	4	45	F	8.3	66.94	76.82	38.23	1.27	.06	276.65	34.74	.85	.74		
	4	46	F	11.3	79.38	86.02	50.46	1.40	.08	372.60	58.51	.74	.94		
	4	47	F	9.5	78.00	95.96	52.59	1.17	.07	327.47	36.85	1.15	.82		
	4	48	F	7.7	72.19	73.75	41.45	1.19	.06	266.48	45.87	.77	.78		
32 MG/KG/DAY	5	55	F	---	---	---	---	---	---	---	---	---	---	---	---
	5	56	F	10.1	77.05	96.32	54.96	1.50	.09	444.72	99.96	.75	.73		
	5	57	F	8.8	68.84	76.81	43.62	1.50	.07	347.20	104.85	1.40	.67		
	5	58	F	---	---	---	---	---	---	---	---	---	---	---	---
	5	59	F	8.3	75.25	78.33	55.18	1.25	.09	365.10	48.76	.74	.64		
	5	60	F	7.7	71.88	75.88	50.68	1.38	.08	363.45	72.35	.75	.67		

--- INDICATES NO DATA

* Paired organ weights

APPENDIX VII
OPHTHALMOLOGY REPORT

STUDY - L6116-L07
OPHTHALMIC FINDINGS

Variations of normal recorded on the initial and 13 week examinations included retinal pigment variations (Dogs 25, 26, 33, 36, 49, 58), variation in the size of the optic nerve head (Dogs 3, 33), variations in tapetal reflection (Dogs 23, 43, 60) and prominent lens suture lines (Dog 27) and were included only for reference on subsequent ophthalmic examinations. Developmental abnormalities noted included persistent pupillary membranes (PPM) (Dog 18) and persistent hyaloid membrane (PH) (Dog 29) and were not related to the study. The unusual tapetal coloration noted on the second examination in 2 dogs (Dogs 15, 44) appeared to be an extreme variation of normal, not recorded on the initial exam. No changes were seen on the final examination in these 2 animals. A small superficial corneal scar was noted on one animal (Dog 22).

None of the animals examined on the first 2 dates appeared to have any toxic ocular changes. However, on the final examination, a number of animals were observed to have vitreal stranding or haze (Dogs 10, 12, 13, 34, 35, 39, 41, 43, 46, 48, 49, 51, 57, 59, 60) in one or both eyes. This finding was most often observed in the anterior vitreous and could be indicative of a pars planitis. Two animals were noted to have retinal exudates (Dog 33) or sheathing of retinal vessels (Dog 59) which may indicate a retinitis. Definitive diagnosis could not be made on clinical examinations and histopathological studies will be useful in determining the significance of these findings.

C. Sue West, D.V.M.

C. Sue West, DVM
Diplomate, American College
of Veterinary Ophthalmologists

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
OPHTHALMIC EXAMINATIONS

Study No. L6116, No. 5
Sex Male

Treatment Group	Dose (mg/kg/day)	Test Animal No.	Pre-Study	13 week	Final exam.
I	0	1	NVL	NVL	NVL
		2	NVL	NVL	NVL
		3	NVL	NVL ^{sl} optic sm nerve	NVL-PV (OS)
		4	NVL	NVL	NVL
		5	NVL	NVL	NVL
		6	NVL	NVL	NVL-PV (OD)
II	0.5	13	NVL	NVL	OU-VS
		14	NVL	NVL	NVL
		15	NVL	OU-tapetal color	OU-tapetal color
		16	NVL	NVL	NVL
		17	NVL	NVL	NVL
		18	NVL	OU-PPM	NVL
III	2	25	NVL-OD-PV	NVL	NVL
		26	NVL-OS-PV	NVL-OS-PV	NVL
		27	NVL	NVL-OU-Prem. lens	NVL
		28	NVL	NVL	NVL
		29	NVL	NVL-PH	NVL
		30	NVL	NVL	NVL
IV	8	37	NVL	NVL	NVL
		38	NVL	NVL	NVL
		39	NVL	NVL	OU-VS
		40	NVL	NVL	NVL
		41	NVL	NVL	OU-VS:OS-PV
		42	NVL	NVL	NVL
V	32	49	NVL-OS-PV	NVL-OS-PV ^{old} fold	OU-VS:OU-PV
		50	NVL	NVL	NVL
		51	NVL	NVL	OU-VS
		52	NVL	NVL	NVL
		53	NVL	NVL	NVL
		54	NVL	NVL	NVL

NVL - No Visible Lesions VS- Vitreal Strands OS- Left Eye
PV- Pigment Variation VH- Vitreal Haze OD- Right Eye
PH- Persistent Hyaloid OU- Both Eyes

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Summary and Conclusions

Alterations considered to be treatment related were present in the thyroid (C-cell hyperplasia [males]), liver (cirrhosis [males], hepatocytic cloudy swelling, hepatocytomegalia, histiocytic hemosiderin), spleen (congestion, erythropoiesis [males], histiocytic hemosiderin), mesenteric lymph nodes (enlarged [females], pigmentation [females]), small intestine (membranous enteritis), and bone marrow (erythrocytic aplasia, decreased M:E ratios [males]).

In general, the liver and small intestine were the most responsive to TNT with definite effects such as hepatocytic cloudy swelling, hepatocytomegalia and membranous enteritis being present at a TNT dosage of 0.5 mg/kg/day. Significant changes in thyroid, mesenteric lymph node and bone marrow were present only in the 32 mg/kg/day dosage group. Splenic changes were definitely present in the 8 mg/kg/day and the 32 mg/kg/day dosage groups. Assessment of eye lens changes was not possible for reasons stated above.

With the exception of the lesions considered to be treatment related, the remainder of lesions tabulated among control and test animals were regarded as incidental findings or normal physiological alterations. No neoplastic lesions were observed in either control or test animals.

Spleen - Congestion was observed in TNT 0 mg/kg/day males (2/6) and in males and females of TNT 2 mg/kg/day (1/6, 2/6), TNT 8 mg/kg/day (6/6, 5/6) and TNT 32 mg/kg/day (6/6, 2/6). In general, this microscopic observation corresponded to the necropsy observation of an enlarged spleen. Both control (TNT 0 mg/kg/day) males diagnosed as having congestion were observed to have an enlarged spleen at necropsy.

Trace to severe erythropoiesis was observed in TNT 32 mg/kg/day males (5/6) compared with an incidence of 0/6 in males of other groups.

Histiocytic hemosiderin was observed in males of TNT 0 mg/kg/day (1/6) and males and females of TNT 0.5 mg/kg/day (2/6, 3/6), TNT 2 mg/kg/day (2/6, 3/6), TNT 8 mg/kg/day (6/6, 4/6) and TNT 32 mg/kg/day (5/6, 5/6). This deposition was of trace severity in TNT 0 mg/kg/day and TNT 0.5 mg/kg/day animals while in TNT 2 mg/kg/day and TNT 8 mg/kg/day it generally ranged from trace to marked and in TNT 32 mg/kg/day it was generally moderate to marked.

Mesenteric Lymph Node - Enlarged, pigmented lymph nodes were observed in one TNT 8 mg/kg/day female and three TNT 32 mg/kg/day females at necropsy. No microscopic change corresponding to this observation was found.

Small Intestine - A membranous enteritis involving at least one level of small intestine was observed in males and females of TNT 0.5 mg/kg/day (2/6, 3/6), TNT 2 mg/kg/day (3/6, 3/6), TNT 8 mg/kg/day (2/6, 3/6) and TNT 32 mg/kg/day (5/6, 2/6). This lesion was characterized by retention of villous tips and the presence of an inflammatory exudate, both cellular and acellular, related to an inflammatory serous and cellular exudate within the body of villi.

Eye - Based on a qualitative evaluation, Dr. Rust reported treatment related changes in the lenses of the eyes suggestive of early opacity. Dr. Sagartz characterized this change as a cortical lenticular degeneration (either unilateral or bilateral) and developed quantitative data indicating that neither severity nor incidences were suggestive of a treatment related effect. The etiology of this lesion remains undetermined.

Bone Marrow (Tissue Section) - An erythroid hypoplasia was observed in some dogs of all groups receiving TNT. This hypoplasia was generally more severe as the dose level of TNT in the diet increased. In females the incidence increased with increasing dosage while in males the incidence peaked in TNT 8 mg/kg/day (5/6) and then dropped in TNT 32 mg/kg/day (2/6). As a result of these findings, myeloid erythroid (M:E) ratios were determined using bone marrow smears prepared with a Wright's stain.

Bone Marrow (Smears) - In calculations of means for comparison, the values obtained for animals 80-1003 (7.3:1, TNT 0 mg/kg/day male), 80-1028 (7:1, TNT 8 mg/kg/day male), and 80-1042 (9.9:1, TNT 8 mg/kg/day female) were considered spurious when compared with the values for other animals of the same sex and group as well as the averages for that sex and group. A dose related decrease in the average M:E ratio of males in TNT 8 mg/kg/day to 1.2:1 and TNT 32 mg/kg/day to 0.9:1 was considered significant when compared with TNT 0 mg/kg/day (control, 2.3:1).

The group numbers and corresponding dose levels for this study were:

- Group I - 0 mg/kg/day (control)
- Group II - 0.5 mg/kg/day
- Group III - 2.0 mg/kg/day
- Group IV - 8.0 mg/kg/day
- Group V - 32 mg/kg/day

Pathologic Findings

After analysis of the data, the following morphologic alterations were considered to be treatment related:

Thyroid - A bilateral C-cell hyperplasia was observed in 53 dogs (23/30 males, 30/30 females) with essentially the same frequency in each group (6/6 in all female groups and ranging from 4/6 to 6/6 in male groups). In males, the severity of the lesion was identical in TNT 0 mg/kg/day and TNT 0.5 mg/kg/day (trace). In TNT 2 mg/kg/day and TNT 8 mg/kg/day, the severity increased slightly (trace to moderate) and definitely in TNT 32 mg/kg/day (mild to marked). The slight increase in severity of this lesion with increasing dose seen in females was not felt to be significant.

Liver - At necropsy, livers from TNT 32 mg/kg/day dogs were observed to be enlarged (4/6 males, 3/6 females) and friable (2/6 males, 2/6 females). These findings were considered to be consistent with the following two histologic diagnoses (hepatocytic cloudy swelling and hepatocytomegalia).

A hepatocytic cloudy swelling which generally increased in severity with increasing TNT levels was present in all groups receiving TNT. This lesion was trace to mild in severity in TNT 0.5 mg/kg/day (5/6 males, 2/6 females), trace to marked in TNT 2 mg/kg/day (5/6 males, 6/6 females), mild to moderate in TNT 8 mg/kg/day (6/6 males, 6/6 females) and moderate to marked in TNT 32 mg/kg/day (5/6 males, 4/6 females). This alteration was not observed in control groups of either sex.

A hepatocytomegalia which increased in severity with increased dose was seen in TNT 0.5 mg/kg/day (trace to mild; 5/6 males, 2/6 females), TNT 2 mg/kg/day (trace to moderate; 3/6 males, 5/6 females), TNT 8 mg/kg/day (mild to moderate; 6/6 males, 6/6 females) and TNT 32 mg/kg/day (moderate to marked; 5/6 males, 3/6 females).

Cirrhosis was observed in TNT 8 mg/kg/day (1/6) males and TNT 32 mg/kg/day (6/6) males. No cirrhosis was observed in the remaining male groups. In TNT 32 mg/kg/day males, the lesion ranged from trace to moderate in severity.

The presence of hemosiderin in histocytes or Kupffer cells was noted in TNT 2 mg/kg/day (1/6 females), TNT 8 mg/kg/day (6/6 males, 6/6 females) and TNT 32 mg/kg/day (6/6 males, 4/6 females). The severity of this alteration increased from trace in the TNT 2 mg/kg/day females to generally severe in TNT 32 mg/kg/day males and generally marked in TNT 32 mg/kg/day females.

Narrative Report

In accordance with the experimental protocol, as amended, gross, histopathologic and cytologic examination of organs, tissues, and smears were conducted on 60 (30 male and 30 female; 6 each sex per group) beagle dogs for IITRI Project Number L06116, Study Number 4. On a daily basis, each dog was administered a capsule containing either a known amount of TNT with dietary filler or dietary filler only for up to six continuous months and, under the scientific supervision of Dr. John Burns, was subjected to an extensive necropsy upon spontaneous death, moribund sacrifice or termination of the study. Solid tissues collected were cut to an appropriate thickness and fixed in either 10% neutral buffered formalin (all tissues except eyes and testes), bouins (testes), or 3% gluteraldehyde (eyes) for a period of not less than 48 hours before further processing. Bone marrow smears were fixed in absolute methanol and air dried before application of a Wright's stain. Histologic preparation was conducted at IITRI using standard techniques to cut and stain (hemotoxylin and eosin [H&E]) 6 μ tissue sections. All excess wet tissues, H&E, glass slides, original 'Organ Check Lists' and other supporting documentation have been submitted to the IITRI Life Sciences (LS) archives.

An extensive selection of solid tissues from each animal was microscopically examined by Dr. John Rust. At the time of examination, copies of the 'Organ Check Lists', on which necropsy observations were recorded, were available to the histopathologist. A 'Pathology Report' form, accounting for tissues examined, giving microscopic topographic morphologic observations and listing relevant comments was prepared for each animal and signed by Dr. Rust.

In addition, the eyes from each animal were independently examined microscopically by both Dr. John W. Sagartz and Dr. John Rust. Both had copies of the 'Organ Check Lists' and the Clinical Ophthalmological findings at the time of evaluation. Dr. Rust provided a qualitative evaluation while Dr. Sagartz provided a quantitative evaluation using a 'Histopathology Incidence Table' form for each group.

These forms have been submitted to the IITRI LS archives. The terminology, grading, descriptions and tables of histologic observations used in this report are based solely on these forms.

Cytologic evaluation to determine myeloid erthroid (M:E) ratios from bone marrow smears was conducted by Dr. James Vardiman, Consultant Clinical Pathologist. The individual animal M:E ratios, mean values for each group by sex, are summarized by group in the pathology appendix.

The above 'Pathology Report' forms and appendices which accompany this report constitute an accountability of tissues processed and examined in accordance with the study protocol. The grading system and abbreviations used in the table are as follows:

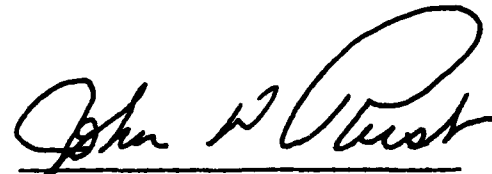
Grade 1 = trace, minimal	N = within normal limits
Grade 2 = mild	L = lesion present
Grade 3 = moderate	M = tissue not present
Grade 4 = marked	I = tissue inadequate
Grade 5 = severe	TFCOA = too few cells for adequate assessment (bone marrow smears only)

CONTENTS

1. Narrative Report
2. Section A = Incidence of Microscopic Lesions Considered
to be Treatment Related
3. Section B = Histopathology Incidence Tables
4. Section C = Necropsy Observations
5. Section D = Myeloid:Erythroid Ratios
6. Section E = Report - John Sagartz

STATEMENT

This Report was reviewed on May 14, 1981 and considered consistent with and reflective of my microscopic evaluation of tissues presented for review.

A handwritten signature in cursive script, reading "John Rust", written in black ink.

John Rust, D.V.M., Ph.D.
Consultant Histopathologist

QUALITY ASSURANCE STATEMENT

PATHOLOGY

Gross necropsy operations were inspected on November 6, 1980 by Josephine M. Reed and Susan Nadolny. Selected histology procedures were inspected by Susan Nadolny on November 11, 1980. The final draft of the pathology report including all material related to microscopic observations and conclusions and representative portions of material related to gross observations, was audited on May 13, 14, and 15, 1981 by Susan Nadolny. All pathology operations were performed in conformance with the study protocol and were in compliance with Life Sciences Quality Assurance Criteria. All pathology data and specimens generated during the study will be retained in the IITRI Life Sciences archives as specified in government regulations.

Susan Nadolny
Susan Nadolny
for:
Josephine M. Reed, M.S., M.M.
Supervisor, Quality Assurance

SIX MONTH SUBCHRONIC ORAL TOXICITY STUDY OF TRINITROTOLUENE (TNT)
IN THE BEAGLE DOG

Pathology Report

May 1981

IITRI Project No. L06116

Study Number 4



John M. Burns, M.S., D.V.M.
Head, Pathology
Life Sciences Research

SIX MONTH SUBCHRONIC ORAL TOXICITY STUDY OF TRINITROTOLUENE (TNT)
IN THE BEAGLE DOG

Pathology Report

May 1981

IITRI Project No. L06116

Study Number 4

APPENDIX IX
PATHOLOGY REPORT



The Ohio State University

Department of Veterinary
Physiology and Pharmacology

1900 Coffey Road
Columbus, Ohio 43210

Phone 614 422-1391

April 10, 1981

Barry S. Levine, D.Sc.
Research Toxicologist
IIT Research Institute
10 West 35 Street
Chicago, IL 60616

Dear Dr. Levine:

I interpreted the electrocardiograms from dogs either receiving the experimental compound or serving as controls. I observed no systematic changes to either rhythm or configurations of complexes. With the statistical analysis of heart rate, PQ interval and QT duration comparing means by time, dose, sex and searching for interactions among groups, only differences with time were observed. Heart rate decreased and PQ and QT durations increased with time but for all groups; therefore, we can state with statistical assurance that this compound produced no changes of significance in the parameters measured.

I have enclosed the entire computer print-out of statistical analysis where you will see all data points entered.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Robert L. Hamlin'.

Robert L. Hamlin, D.V.M., Ph.D.

RLH:mm

Enclosures

APPENDIX VIII
CARDIOLOGY REPORT

Study No. L6116, No. 5
Sex Female

TWENTY-SIX WEEK SUBCHRONIC ORAL TOXICITY STUDY
OF TRINITROTOLUENE (TNT) IN THE BEAGLE DOG
OPHTHALMIC EXAMINATIONS
FOR FEMALE DOGS

Treatment Group	Dose (mg/kg/day)	Test Animal No.	Pre-Study	13 week	Final exam.
I	0	7	NVL	NVL	NVL
		8	NVL	NVL	NVL-PV (OS)
		9	NVL	NVL	NVL
		10	NVL	NVL	OU-VS
		11	NVL	NVL	NVL
		12	NVL	NVL	OU-VS
II	0.5	19	NVL	NVL	NVL
		20	NVL	NVL	NVL
		21	NVL	NVL	NVL
		22	NVL	OS-corneal scar	NVL-PV (OS)
		23	NVL	OD-focal hyper reflectivity	NVL
		24	NVL	NVL	NVL
III	2	31	NVL	NVL	NVL
		32	NVL	NVL	NVL
		33	OU-SM. OPTIC NERVE OU-PV	OU-SM-O.N.	OU-SM. O.N. retinal exudates
		34	NVL	NVL	OS-mild VS
		35	NVL	NVL	OS-mild VH
		36	NVL-OS-PV	NVL	NVL-PV
IV	8	43	NVL	OS-hyper-reflective	OU-VS
		44	NVL	OU-tapetal color	OU-tapetal color
		45	NVL	NVL	NVL
		46	NVL	NVL	OU-VS
		47	NVL	NVL	NVL
		48	NVL	NVL	OU-VH
V	32	55	NVL	NVL	(not examined)
		56	NVL	NVL	NVL
		57	NVL	NVL	OU-VS
		58	NVL-OS-PV	NVL	(not examined)
		59	NVL	NVL	OU-VS: vessels (OS) sheathed retinal
		60	NVL	mild hyper-reflectivity	OU-VS

NVL - No Visible Lesions VS- Vitreal Strands OS- Left Eye
PV- Pigment Variation VH- Vitreal Haze OD- Right Eye
PH- Persistent Hyaloid OU- Both Eyes ON- Optic Nerve

HISTOPATHOLOGY INCIDENCE TABLE

TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG
 GROUP I
 INT 0.0

ORGAN
Lesion

SKIN
Dermatitis, acute, focal, granulomatous
MAMMARY GLAND
MUSCLE, SKELETAL
MANDIBULAR SALIVARY GLAND
Sialoadenitis, chronic
MANDIBULAR LYMPH NODE
THYMUS
Regression
Cysts, multiple
STERNUM
Ossification, dysplastic

MALES

[illegible]

Incidence

FEMALES

[illegible]

Incidence

HISTOPATHOLOGY INCIDENCE TABLE

ORGAN Lesion	MALES	Accession Number
COSTOCHONDRAL JUNCTION		
Ossification, dysplastic		
HEART		
AORTA		
Sclerosis, medial		
PITUITARY		
Cyst		
SCIATIC NERVE		
THYROID		
Hyperplasia, C-cell, unilateral		
Hyperplasia, C-cell, bilateral		
Cyst(s), NOS, bilateral		
Thyroglossal duct, unilateral		

Accession Number	80-1039	80-1015	80-0994	80-1016	80-1041	80-1025
FEMALES	N	N	N	N	N	N

[illegible]

TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG
 GROUP I
 TNT 0.0

MALES

[illegible]

Accession
Number

Incidence

[illegible]

FEMALES

[illegible]

Accession Number

Incidence

[illegible]

HISTOPATHOLOGY INCIDENCE TABLE

ORGAN Lesion

SPLEEN
Atrophy, white pulp
Cirrhosis
Congestion, NOS
Congestion, focal
Cytoplasia, reticular
Cytopenia, red pulp/reticular
Erythrocytopenia
Erythropoiesis/erythrocytopoiesis
Erythrocytic/erythroid aplasia
Hemosiderin, histiocytic
Infarct
Cytoplasia/hyperplasia, medullary
Splenomegaly
MESENTERIC LYMPH NODE
PANCREAS

MALES

[illegible]

Incidence

[illegible]

FEMALES

[illegible]

Independence

[illegible]

TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG
 GROUP I
 TNT 0.0

249

HISTOPATHOLOGY INCIDENCE TABLE

ORGAN Lesion	MALES	Accession Number
DUODENUM		
Enteritis, membranous		
JEJUNUM		
Enteritis, membranous		
ILEUM		
Enteritis, membranous/catarrhal		
Lymphoid follicle, reactive		
CECUM		
Lymphoid follicle, reactive		
COLON		
RECTUM		
Enteritis, pseudomembranous		
Lymphoid hyperplasia		

FEMALES	Accession Number
80-1039	N
80-1015	N
80-0994	N
80-1016	N
80-1041	N
80-1025	N

TWENTY-SIX WEEK SUBCHRONIC
BEAGLE DOG
GROUP I
INT 0.0

251

TNT 0.0

BONE MARROW
Aplastic
Cytopenia
Erythropoiesis/erythrocytopoiesis, NOS
Erythropoiesis/erythrocytopoiesis, focal
Erythrocytic hypoplasia
Fatty
Hemosiderin, histiocytic
Pigment, histiocytic, NOS
Congestion
LESION
Bursitis, chronic/subacute, proliferative
Lip/face, epidermal hyperplasia
Accessory spleen, congestion

[illegible][illegible]

80-1039	N									-							
80-1015	N									-							
80-0994	N									7			1				
80-1016	N									-							
80-1041	N									-							
80-1025	N									-							

[illegible]

Incidence

[illegible]

FEMALES
Accession
Number

[illegible]

Incidence

[illegible]

MALES
Accession
Number

[illegible]

ORGAN Lesson

[illegible]

TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG
 GROUP II
 TNT 0.5

ORGAN Leston

SKIN
Dermatitis, acute, focal, granulomatous
MAMMARY GLAND
MUSCLE, SKELETAL
MANDIBULAR SALIVARY GLAND
Sialoadenitis, chronic
MANDIBULAR LYMPH NODE
THYMUS
Regression
Cysts, multiple
STERNUM
Ossification, dysplastic

MALES

Accession
Number

[illegible]

Incidence

FEMALES

Accession Number

[illegible]

Incidence

[illegible]

GROUP II
TNT 0.5

**ORGAN
Leston**

COSTOCHONDRAL JUNCTION
Ossification, dysplastic
HEART
AORTA
Sclerosis, medial
PITUITARY
Cyst
SCIATIC NERVE
THYROID
Hyperplasia, C-cell, unilateral
Hyperplasia, C-cell, bilateral
Cyst(s), NOS, bilateral
Thyroglossal duct, unilateral

MALES
Accession
Number

[illegible]

Incidence

[illegible]

FEMALES
Accession
Number

80-1040	N			N		N		N		N		L	2		
80-1020	N			N		N		N		N		L	1		
80-0998	N			N		N		N		N		L	3		
80-1018	N			N		N		N		N		L	1		
80-1013	N			N		N		N		N		L	1		
80-1000	N			N		N		N		N		L	3		

Incidence

[illegible]

ORGAN Lesion

MALES	Accession Number
N	80-1032
N	80-1031
N	80-1048
N	80-1047
N	80-1043
N	80-0989

MALES
Accession
Number

[illegible]

Incidence

[illegible]

FEMALES

[illegible]

Accession Number

Incidence

[illegible]

ORGAN Lesion

DUODENUM	
Enteritis, membranous	
JEJUNUM	
Enteritis, membranous	
ILEUM	
Enteritis, membranous/catarrhal	
Lymphoid follicle, reactive	
CECUM	
Lymphoid follicle, reactive	
COLON	
RECTUM	
Enteritis, pseudomembranous	
Lymphoid hyperplasia	

MALES

Accession
Number

80-1004	N			L	3		N			N		N		N			
80-1046	N			N			N			N		N		N			
80-1009	N			N			N			N		N		N			
80-0990	L	4		N			L	4		N		N		N			
80-1027	N			N			L	2		N		N		N			
80-1008	N			N			N			N		N		N			

Incidence

[illegible]

FEMALES

Accession Number

[illegible]

Incidence

[illegible]

GROUP III
TNT 2.0

ORGAN Lesion

EPIDIDYMIS
Hyospermia, unilateral
Hyospermia, bilateral
Epithelial cystic degeneration
Angietis, proliferative, unilateral
URINARY BLADDER
Cystitis, chronic
URETER
ADRENAL
ESOPHAGUS
TRACHEA
STOMACH
Submucosa] lymphoid hyperplasia

MALES
Accession
Number

80-1004	L		4					N			N	N	N	N			
80-1046	N							N			N	N	N	N			
80-1009	N							N			N	N	N	N			
80-0990	L		4	4				N			N	N	N	N			
80-1027	N							N			N	N	N	N			
80-1008	M							N			N	N	N	N			

Incidence

[illegible]

FEMALES
Accession
Number

80-1036	M/M					N				M/M		M/M		N		N		N	
80-0991	M/M					N				M/M		M/M		N		N		N	
80-1024	M/M					N				M/M		M/M		N		N		N	
80-1052	M/M					N				M/M		M/M		N		N		N	
80-1035	M/M					N				M/M		M/M		N		N		N	
80-1023	M/M					N				M/M		M/M		N		N		N	

Incidence

[illegible]

Accession Number

Incidence

FEMALES
Accession
Number

Incidence

Incidence

TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG
 GROUP III
 INT 2.0

ORGAN Lesion

PARATHYROID
RESPIRATORY LYMPH NODE
LUNG, DIAPHRAGMATIC
Pneumonia, interstitial, subacute, focal
LIVER
Cirrhosis
Cloudy swelling, hepatocytic
Erythropoiesis/Erythrocytopoiesis
Hepatitis, acute/chronic
Hepatocytomegalia
Hemosiderin, histiocytic/Kupffer cells
Congestion
GALL BLADDER

MALES
Accession Number

80-1004	M	M		N		N			L	1		2				N
80-1046	N	N		N		N			L	1		1				N
80-1009	N	M		N		N			L		1					N
80-0990	N	N		N		N			L	4						N
80-1027	M	M		N		N			L	3		3				N
80-1008	N	N		N		N			L	3						N

Incidence

[illegible]

FEMALES
Accession
Number

[illegible]

Incidence

[illegible]

TWENTY-SIX WEEK SUBCHRONIC
BEAGLE DOG
GROUP III
TNT 2.0

ORGAN Lesion

SKIN
Dermatitis, acute, focal, granulomatous
MAMMARY GLAND
MUSCLE, SKELETAL
MANDIBULAR SALIVARY GLAND
Sialoadenitis, chronic
MANDIBULAR LYMPH NODE
THYMUS
Regression
Cysts, multiple
STERNUM
Ossification, dysplastic

MALES

[illegible]

Incidence

[illegible]

FEMALES

80-1036	N			N	N	N		N	N			N
80-0991	N			N	N	N		N	N			N
80-1024	N			N	N	N		N	N			N
80-1052	N			N	N	N		N	N			N
80-1035	N			N	N	N		N	N			N
80-1023	N			N	N	N		N	N			N

Incidence

[illegible]

ORGAN Lesion

LESION, continued

Pancreatic lymph node, pigment,
histiocytic, focal
Hip, verruca vulgaris

Accession Number

[illegible]

Incidence

Accession Number

[illegible]

Incidence

[illegible]

TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG
 GROUP II
 TNT 0.5

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HISTOPATHOLOGY INCIDENCE TABLE

[illegible]

HISTOPATHOLOGY INCIDENCE TABLE

ORGAN Lesion	MALES	Accession Number
KIDNEY		
Granuloma, parasitic, bilateral		
Nephritis, interstitial, focal		
BRAIN		
CERVICAL CORD		
THORACIC CORD		
LUMBAR CORD		
NASAL TURBINATE		
EYE		
Lenticular Degeneration, Cortical,		
Bilateral		
Lenticular Degeneration, Cortical,		
Unilateral		

[illegible]

FEMALES	Accession Number
80-1040	N N N
80-1020	N N N
80-0998	N N N
80-1018	N N N
80-1013	N N N
80-1000	N N N

[illegible]

HISTOPATHOLOGY INCIDENCE TABLE

OVARY
Persistent corpora lutea, bilateral/unilateral
UTERUS
Endometrial hyperplasia, unilateral
VAGINA
FALLOPIAN TUBE
TESTIS
Spermatic arrest, bilateral
PROSTATE

[illegible][illegible][illegible][illegible]

TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG
 GROUP II
 INT 0.5

MALES

[illegible]

Accession Number

MALES

[illegible]

Accession Number

Incidence

[illegible]

FEMALES

Accession Number

80-1000	M/M					N			N/N		N/N		N	N	N
80-1013	M/M					N			N/N		N/N		N	N	N
80-1018	M/M					N			N/N		N/N		N	N	N
80-0998	M/M					N			N/M		N/N		N	N	N
80-1020	M/M					N			N/N		N/N		N	N	N
80-1040	M/M					N			N/N		N/N		N	N	N

Accession Number

Incidence

[illegible]

HISTOPATHOLOGY INCIDENCE TABLE

FEMALES	Accession Number
80-1040	N
80-1020	N
80-0998	N
80-1018	N
80-1013	N
80-1000	N

[illegible]

SPLEEN
Atrophy, white pulp
Cirrhosis
Congestion, NOS
Congestion, focal
Cytoplasia, reticular
Cytopenia, red pulp/reticular
Erythrocytopenia
Erythropoiesis/erythrocytopenia
Erythrocytic/erythroid aplasia
Hemosiderin, histiocytic
Infarct
Cytoplasia/hyperplasia, medullary
Splenomegaly
MESENTERIC LYMPH NODE
PANCREAS

HISTOPATHOLOGY INCIDENCE TABLE

[illegible]

TWENTY-SIX WEEK SUBCHRONIC
BEAGLE DOG
GROUP III
TNT 2.0

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HISTOPATHOLOGY INCIDENCE TABLE

ORGAN Lesion

[illegible]

MALES
Accession
Number

[illegible]

Incidence

FEMALES

Accession Number

[illegible]

Incidence

[illegible]

TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG
 GROUP IV
 TNT 8.0

MALES

80-1050	N				N	N	N			N						L	3
80-1033	N				M	N	N			N						N	
80-0986	N				M	N	N			N						N	
80-1034	N				N	N	N			N						N	
80-1030	N				N	N	N			N						N	
80-1028	N				N	N	N			N						N	

Accession
Number

Incidence

80-0996	L		3	N	N	N	N			N	N					L	1
80-0992	N			N	N	N	N			N	N					L	2
80-1042	N			N	N	L	4			N	N					N	
80-1010	N			N	N	N				N	N					N	
80-1019	N			N	N	N				N	N					N	
80-1037	N			N	N	N				N	N					N	

Accession
Number

FEMALES

Incidence

275

TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG
 GROUP IV
 TNT 8.0

ORGAN Lesion	MALES					FEMALES						
	Accession Number					Accession Number						
	80-1050	80-1033	80-0986	80-1034	80-1030	80-1028	80-0996	80-0992	80-1042	80-1010	80-1019	80-1037
SPLEEN	L	L	L	L	L	L	L	L	L	L	L	L
Atrophy, white pulp												
Cirrhosis												
Congestion, NOS	4	3	4	4	4	4		4	3	3	4	4
Congestion, focal												
Cytoplasia, reticular												
Cytopenia, red pulp/reticular										4		
Erythrocytopenia	4	1	4		5	4/6		4			4	4
Erythropoiesis/erythrocytopenia												
Erythrocytic/erythroid aplasia				3		1/6						
Hemosiderin, histiocytic	2	1	1	1	2	6/6			2	4	1	2
Infarct												
Cytoplasia/hyperplasia, medullary					4	1/6		3				
Splenomegaly												
MESENTERIC LYMPH NODE	N	N	N	N	N		N	N	N	N	N	N
PANCREAS	N	N	N	N	N		N	N	N	N	N	N

TWENTY-SIX WEEK SUBCHRONIC
BEAGLE DOG
GROUP IV
INT IV

OVARY	
Persistent corpora lutea,	
bilateral/unilateral	
UTERUS	
Endometrial hyperplasia, unilateral	
VAGINA	
FALLOPIAN TUBE	
TESTIS	
Spermatic arrest, bilateral	
PROSTATE	

[illegible][illegible]

80-0996	N	N				N		N		N		N		N		M			
80-0992	L	L	3			N		N		N		N		N		M			
80-1042	N	N				N		N		N		N		N		M			
80-1010	N	N				N		N		N		N		N		M			
80-1019	L	L	3			L	4			N		N		N		M			
80-1037	L	N	P			L	4			N		N		N		M			

[illegible]

TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG
 GROUP IV
 TNT 8.0

ORGAN Lesson

DUODENUM	
Enteritis, membranous	
JEJUNUM	
Enteritis, membranous	
ILEUM	
Enteritis, membranous/catarrhal	
Lymphoid follicle, reactive	
CECUM	
Lymphoid follicle, reactive	
COLON	
RECTUM	
Enteritis, pseudomembranous	
Lymphoid hyperplasia	

MALES

Accession Number

80-1050	L	2		L	2		L	2		N		N		N			
80-1033	N			L	3		N			N		N		N			
80-0986	N			N			N			N		N		N			
80-1034	N			N			N			N		N		N			
80-1030	N			N			N			N		N		N			
80-1028	N			N			N			N		N		N			

Incidence

[illegible]

FEMALES

Accession Number

80-0996	N			L	3		N			N			N				
80-0992	N			N			N			N			N				
80-1042	N			N			N			N			N				
80-1010	N			N			N			N			N				
80-1019	N			N			L	4		N			N				
80-1037	L	3		L	3		N			N			N				

Incidence

[illegible]

GROUP IV
TNT 8.0

ORGAN Lesion

BONE MARROW
Aplastic
Cytopenia
Erythropoiesis/erythrocytopenia,
NOS
Erythropoiesis/erythrocytopenia,
focal
Erythrocytic hypoplasia
Fatty
Hemosiderin, histiocytic
Pigment, histiocytic, NOS
Congestion
LESION
Bursitis, chronic/subacute,
proliferative
Lip/face, epidermal hyperplasia
Accessory spleen, congestion

MALES

Incidence

[illegible]

FEMALES
Accession
Number

Incidence

[illegible][illegible]

[illegible]

Accession
Number

[illegible][illegible]

Accession
Number

[illegible][illegible]

AD-A157 082

DETERMINATION OF THE CHRONIC MAMMALIAN TOXICOLOGICAL
EFFECTS OF TNT TWENT. (U) IIT RESEARCH INST CHICAGO IL
B S LEVINE ET AL. JUN 83 DAMD17-79-C-9120

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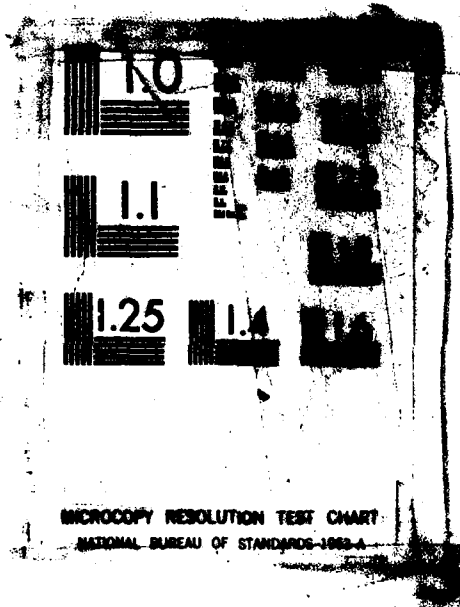
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG
 GROUP V
 TNT 32.0

287

HISTOPATHOLOGY INCIDENCE TABLE

TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG
 GROUP V
 TNT 32.0

ORGAN Lesion	MALES						FEMALES						
	Accession Number						Accession Number						
	80-1005	80-1001	80-1006	80-1002	80-0987	80-1007		80-1022	80-1014	80-0997	80-1038	80-0993	80-1026
SPLEEN	L	L	L	L	L	L		L	L	L	L	L	L
Atrophy, white pulp											4		
Cirrhosis													
Congestion, NOS	4	4	4	5	3	4	6/6	3	4				
Congestion, focal													
Cytoplasia, reticular	4		4				2/6			4			3
Cytopenia, red pulp/reticular								4					
Erythrocytopenia				5			1/6		2			4	
Erythropoiesis/erythrocytopoiesis	4	4		1	5	4	5/6		4				
Erythrocytic/erythroid aplasia													
Hemosiderin, histiocytic	4	3	3	3		4	5/6	4	4	3		1	3
Infarct													
Cytoplasia/hyperplasia, medullary													
Splenomegaly					5		1/6						
MESENTERIC LYMPH NODE	N	N	N	N	N	N		N	N	N	N	N	N
PANCREAS	L	N	N	N	N	N		N	N	N	N	N	N
Lymph node, pigment, hisiocytic	1						1/6						

TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG
 GROUP V
 TNT 32.0

ORGAN Lesion

DUODENUM	
Enteritis, membranous	
JEJUNUM	
Enteritis, membranous	
ILEUM	
Enteritis, membranous/catarrhal	
Lymphoid follicle, reactive	
CECUM	
Lymphoid follicle, reactive	
COLON	
RECTUM	
Enteritis, pseudomembranous	
Lymphoid hyperplasia	

MALES
Accession
Number

[illegible]

Incidence

[illegible]

FEMALES
Accession
Number

	N		N				N		N								
80-1022	N		N				N		N								
80-1014	L	2	N				N		N								
80-0997	N		N				N		N								
80-1038	N		N				N		N								
80-0993	N		N				L		3		L	4		N		N	
80-1026	N		N				N				N			N			

Incidence

[illegible]

TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG
 GROUP V
 TNT 32.0

ORGAN Lesson

KIDNEY
Granuloma, parasitic, bilateral
Nephritis, interstitial, focal
BRAIN
CERVICAL CORD
THORACIC CORD
LUMBAR CORD
NASAL TURBINATE
EYE
Lenticular Degeneration, Cortical,
Bilateral
Lenticular Degeneration, Cortical,
Unilateral

MALES[illegible]

Incidence

FEMALES

[illegible]

Incidence

216

TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG
 GROUP V
 TNT 32.0

ORGAN Lesion

BONE MARROW
Aplastic
Cytopenia
Erythropoiesis/erythrocytopenia,
NOS
Erythropoiesis/erythrocytopenia,
focal
Erythrocytic hypoplasia
Fatty
Hemosiderin, histiocytic
Pigment, histiocytic, NOS
Congestion
LESION
Bursitis, chronic/subacute,
proliferative
Lip/face, epidermal hyperplasia
Accessory spleen, congestion

MALES
Accession
Number

80-1005	L					4			3	4				-			
80-1001	L	L				2								-			
80-1006	L	N												-			
80-1002	L	L				4			3	4				-			
80-0987	L	L												-			
80-1007	L	L				3								-			

Incidence

[illegible]

FEMALES
Accession
Number

80-1026	L									-				
80-0993	L									-				
80-1038	L	5								-				
80-0997	L				3	4	2			-				
80-1014	N									L	4			
80-1022	T					4			4	-				

Incidence

[illegible]

HISTOPATHOLOGY INCIDENCE TABLE

ORGAN Lesion

[illegible]

MALES
Accession Number

[illegible]

Incidence

FEMALES
Accession
Number

[illegible]

Incidence

NECROPSY OBSERVATIONS

NECROPSY OBSERVATIONS

SKIN
Alopecia
Mass, NOS
Cyst, subcutaneous
Lesion, NOS
MAMMARY GLAND
Enlarged, NOS
Nipple, enlarged
Lymph node, enlarged
Black area(s)
THYMUS
Lymph node(s), enlarged/red brown
HEART
Flacid

[illegible][illegible]

IN
TWENTY-SIX WEEK SUBCHRONIC
BEAGLE DOG

WEIGHT 31 OBSERVATIONS

ORGAN
Lesion

RESPIRATORY LYMPH NODE(S)
Enlarged
LUNG
pinpoint (red) foci
LIVER
Brown/red
Nodule(s)
Enlarged
Friable
White foci
Rough
GALL BLADDER
Bile, thickened
Bile, granules present

MALES
GROUP
NUMBER

I					
II					
III					
IV					
V					

FEMALES
GROUP
NUMBER

I					
II					
III					
IV					
V					

ORGAN Lesion

UTERUS
Swollen, firm
CERVIX
Swollen, firm
VAGINA
Yellow mucoid fluid present
TESTES
Small
PROSTATE
Enlarged
Small
URINARY BLADDER
Black area(s)

MALES	GROUP	NUMBER
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
17	17	17
18	18	18
19	19	19
20	20	20
21	21	21
22	22	22
23	23	23
24	24	24
25	25	25
26	26	26
27	27	27
28	28	28
29	29	29
30	30	30
31	31	31
32	32	32
33	33	33
34	34	34
35	35	35
36	36	36
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98	98	98
99	99	99
100	100	100

[illegible]

FEMALES
GROUP
NUMBER

[illegible]

NECROPSY OBSERVATIONS

TNI

TWENTY-SIX WEEK SUBCHRONIC

BEAGLE DOG

NECROPSY OBSERVATIONS

MALES

GROUP
NUMBER

FEMALES

GROUP
NUMBER

[illegible][illegible]

VULVA
Pus
PREPUTIAL ORIFICE
Pus
TEETH
Tartar
ABDOMINAL CAVITY
Fluid present

**TNT
TWENTY-SIX WEEK SUBCHRONIC
BEAGLE DOG**

NECROPSY OBSERVATIONS

	I	II	III	IV	V
FEMALES					
GROUP NUMBER					

[illegible]

ADRENAL	
Red area	
TRACHEA	
Lymph node(s), enlarged/dark	
STOMACH	
Rugae yellow stained	
Yellow mucoid material present	
Mucose, nodules, white	
DUODENUM	
Mucoid material, orange/yellow, adherent	
Serosa, raised white area(s)/mucosa, depressions, multiple	

TNT
 TWENTY-SIX WEEK SUBCHRONIC
 BEAGLE DOG

NECROPSY OBSERVATIONS

ORGAN
 Lesion

JEJUNUM
Mucoid material, orange/yellow, adherent
Serosa, raised white area(s)/mucosa, depressions, multiple
Mucosa, raised area, round
Parasite(s)
ILEUM
Mucoid material, orange/yellow, adherent
Serosa, raised white area(s)/mucosa, depressions, multiple
Mucosa, raised area, round, white
SMALL INTESTINE, NOS
Outpouchings
Walls, thickened

MALES
 GROUP
 NUMBER

I						
II						
III						
IV						
V						
I	4	2	3	3	6	
II	5	2	2	1	2	
III						
IV						
V						
I						
II	1					
III						
IV						
V						
I	2		1	1	1	
II						
III	3			1	2	
IV						
V						
I						
II						
III						
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FEMALES
 GROUP
 NUMBER

I						
II						
III						
IV						
V						
I	4	4	4	6	1	
II	2	3	2	3	1	
III	1					
IV						
V						
I						
II	2	1	1	1	1	
III						
IV	2	2	1			
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I						
II						
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V						

**ORGAN
Lotion**

COLON
Mucosa, mucoid yellow/green material,
adherent
LARGE INTESTINE, NOS
Walls, thickened
KIDNEY
Cortex, tan
NASAL TURBINATE
Soft
BONE MARROW
Dark red
GENERAL
Tissues yellow (icterus)

MALES	GROUP	NUMBER
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
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[illegible]

FEMALES
GROUP
NUMBER

[illegible]

SECTION D
MYELOID:ERYTHROID RATIOS

MALE

FEMALE

TNT 0 mg/kg/day

Accession Number	M:E
80-1051	1.8:1
80-0984	3.5:1
80-0985	1.4:1
80-1029	TFCAA
80-0982	2.5:1
80-1003	7.3:1*
Average All Values = 3.3:1	
Average with (*)excluded = 2.3:1	

Accession Number	M:E
80-1039	TFCAA
80-1015	2.3:1
80-0994	1.6:1
80-1016	0.8:1
80-1041	TFCAA
80-1025	1.4:1
Average All Values = 1.5:1	

TNT 0.5 mg/kg/day

80-1032	1.2:1
80-1031	TFCAA
80-1048	1.3:1
80-1047	3.6:1
80-1043	1.9:1
80-0989	TFCAA
Average All Values = 2.0:1	

80-1040	1.5:1
80-1020	1.3:1
80-0998	2.3:1
80-1018	1.2:1
80-1013	TFCAA
80-1000	0.8:1
Average All Values = 1.4:1	

TNT 2.0 mg/kg/day

80-1023	TFCAA
80-1035	1:1
80-1052	2.6:1
80-1024	1.6:1
80-0991	2.4:1
80-1036	1.5:1
Average All Values = 2.3:1	

80-1004	2.5:1
80-1046	3.0:1
80-1009	1.1:1
80-0990	3.5:1
80-1027	2.3:1
80-1008	1.4:1
Average All Values = 1.8:1	

TNT 8.0 mg/kg/day

80-1050	0.9:1
80-1033	1.6:1
80-0986	1.0:1
80-1034	1.3:1
80-1030	1.2:1
80-1028	7:1*

Average All Values = 2.2:1
Average with (*)excluded = 1.2:1

80-0996	0.8:1
80-0992	0.8:1
80-1042	9.9:1*
80-1010	2.8:1
80-1019	0.4:1
80-1037	0.9:1

Average All Values = 2.6:1
Average with (*)excluded = 1.1:1

TNT 32.0 mg/kg/day

80-1005	0.7:1
80-1001	1.2:1
80-1006	0.5:1
80-1002	0.1:1
80-0987	1.1:1
80-1007	0.7:1

Average All Values = 0.9:1

80-1022	2.1:1
80-1014	1.5:1
80-0997	1.1:1
80-1038	2.2:1
80-0993	0.7:1
80-1026	0.5:1

Average All Values = 1.4:1

TFCAA = Too Few Cells For Adequate Assessment

* = Value Considered Spurious

SECTION E

Ocular Histopathology, TNT--Twenty-six Week Subchronic Beagle Dog Study IITRI Project No. L06116

Histopathologic examination was performed on eye sections from sixty beagle dogs. Individual microscopic findings are shown in the enclosed Histopathology Incidence Tables. Both eyes from each animal were examined, with one exception: only one eye was submitted from female No. 24 (Path. Accession No. 80-1000), Group II, 0.5 mg/kg.

Subtle degenerative lesions were found in the lenses of several control and treated dogs of both sexes. These lesions were classified as cortical lenticular degeneration (cataract) which, in all instances, was of minimal severity. Microscopically, the lesion was characterized by focal disruption of mid-cortical laminations with formation of multiple, well demarcated, pale pink globules of lens protein.

The possibility that these changes were post mortem fixation artifacts was considered but discarded due to the sharp delineation of the globules within wide areas of normal cortical tissue.

In males, these lesions were observed in 3 control dogs (Group I), 5 dogs receiving 0.5 mg/kg (Group II), 5 dogs receiving 2.0 mg/kg (Group III), 3 dogs receiving 8.0 mg/kg (Group IV), and in none of the dogs receiving 32 mg/kg.

In females, the lesions were found in 2 control dogs (Group I), 2 dogs receiving 0.5 mg/kg (Group II), 4 dogs receiving 2.0 mg/kg (Group III), one dog receiving 8.0 mg/kg (Group IV), and 2 dogs receiving 32 mg/kg (Group V).

The lesions occurred in controls as well as in treated dogs. The incidence among treated groups is not dose-related. Consequently, in my opinion, the lenticular lesions are not related to treatment with TNT.

Because these lesions are similar in morphology and location within the lens, I feel that they have a common, but undetermined etiology.


John W. Sagartz, D.V.M. (Date)
Veterinary Pathologist

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